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Observation profile

Introduction

The purpose of the observation profile is to enhance the teacher's ability to assess the young child's progress in developing skills and understanding in those areas which are typically impaired in autism. In the authors' experience of training groups of support assistants and teachers from mainstream nursery and special schools, there is a reported dearth of readily accessible material examining the earliest stages of skill acquisition in these areas (although the P-level targets represent a recent attempt to redress this situation across the curriculum).

On the one hand, the profile should help to establish a baseline for skill acquisition and on the other, to demonstrate progress where intervention programmes have been introduced. The elements of the profile are thus organised in a broadly developmental sequence and are intended to indicate a sequential organisation of skill acquisition in developing goals. However, this is not to say that the young child with autism will progress in each area in an organised fashion! Skills in turn-taking may be more easily developed than those of imitation, for example. In developing imitation skills it may be that imitation of an action on an object – for example, dropping a brick into a cup – is more easily acquired than the social imitation of a gesture such as waving.

Use of the observation profile may assist practitioners in differentiating Early Learning Goals and in setting appropriate targets within the Individual Education Plan (IEP). Should more comprehensive analysis of skills be necessary, for example, in the area of communication, the use of assessment tools such as the Pragmatic Profile of Communication and the Pre-verbal Communication Schedule (see Chapter 2) may be helpful. Here, in best practice, the Early Years practitioner will be collaborating with the Speech and Language Therapist. In terms of more detailed analysis of early cognitive and play skills, use of the Uzgiris and Hunt based schedules for assessment and intervention would be complementary.

Use of the profile

Part 1: Word picture

One class teacher summarised a five year old girl in a mainstream class of 30 children as:

- an able child;
- she demands her own way;
- she can be noisy and disruptive;
- there are occasional violent outbursts;
- she does beautiful drawings of dinosaurs and insects.

This summary gives an overview of an able child with autism. However, it is necessary to fill out the details of the profile in order to find starting points for intervention.

Part 2: Observed behaviours

Children with autism share the same core difficulties, but each child displays these in an individual way.

The profile follows a broadly developmental sequence, but different children will make progress in different areas at different speeds. Each profile will be unique to that individual child, and will offer a snapshot of the child's skills.

For example (see Observation Profile that follows for key for N, I, D, F):

	N	I	D	F
Looks at adult who is talking to him			✓	
Follows adult gaze when adult is looking at something		✓		
Looks at object, then back at adult, when indicating, pointing to or requesting something	✓			

In this example, the developing use of gaze directed at the adult who is talking to him shows an awareness of the adult. The infrequent use of gaze to share the focus of attention suggests that the child is not yet aware of joint focus. Intervention that encourages the development of joint focus is indicated, e.g. Musical/Intensive Interaction activities (see Chapter 4).

Intervention planning

Once the goals have been identified in each skill area, they should be recorded on an Individual Education Plan (IEP), alongside suggested intervention strategies. These strategies should then inform curriculum differentiation across all areas of learning. For example:

Target	Strategies
The child will look at an adult who is talking to him	<ul style="list-style-type: none"> ● identify attractive, eye-catching, noise producing items ● introduce an item to the child, then hide it briefly, while looking towards where it is hidden ● if necessary use the noise to attract the child's attention ● wait until the child gives eye contact to reintroduce the toy with great gusto!

The Observation profile is not intended to be a diagnostic checklist. It is designed to give Early Years practitioners:

- information about the skills a child has already developed;
- starting points for intervention.

OBSERVATION PROFILE				
<p>Part 1. Give a brief word picture of the child in the Early Years setting, noting positive points as well as concerns.</p>				
<p>Part 2. OBSERVED BEHAVIOURS</p>				
<p><i>Rate, using the following key:</i> N = Not present I = Infrequent D = Developing F = Fluent</p>				
A. Social Interaction				
<i>1. Spontaneous use of gaze</i>	N	I	D	F
Looks at adult who is talking to him				
Follows adult gaze when adult is looking at something				
Looks at adult's face when trying to get his/her attention				
Looks at object, then back at adult, when indicating, pointing to or requesting something				
Looks back at adult when (s)he is playing chase with him				
Looks at adult to prompt the repeat of an action game or song				
<i>2. Spontaneous maintenance of proximity</i>				
Allows family members to kiss and hug him				
When upset, goes to family members for comfort				
Allows adult to physically interact in games of chase or 'rough and tumble'				
Allows physical interaction during action games or songs				
Allows adult to play alongside when engaged in an activity				
Allows adult to intervene/share in play				
Tolerates other children sitting nearby				
Allows other children to physically interact in games of chase				
Watches other children playing				
Tolerates other children playing alongside				
Tolerates other children intervening in his play				

3. Imitation				
Notices adult imitating him in action games and interactive play				
Responds to imitation of his actions with further repetition				
Initiates and pauses to allow imitation in social play				
Imitates simple gestures on cue, e.g. waving, clapping				
Imitates more complex gestures on cue, e.g. patting head, sticking tongue out				
Imitates actions with objects on cue, e.g. placing brick in cup, hitting drum with stick				
Imitates more complex actions, e.g. building brick tower				
Imitates simple facial expressions, e.g. smile, grimace				
4. Turn-taking				
Take turns, physically prompted, in simple ball game, e.g. rolling ball to and from adult				
Takes turns in simple ball games with adult/child				
Takes turns in table-top activity 1:1 with adult, e.g. building with bricks, placing pegs, matching pictures				
Takes turns in table-top activity with one other child				
Takes turns in table-top activity with more than one other child, e.g. Lotto game				
Takes turns in gross motor games, e.g. obstacle course				
Takes turns in circle time type activities				
Takes turns in more informally structured play, e.g. riding bikes, chasing games				
5. Initiating				
Uses sounds and gestures to attract adult attention				
Shows/offers object/activity to adult				
Shows/offers object/activity to another child				
Points to show interest in something				
Will take adult to object				
Will take adult's hand to object				
Waves 'bye-bye' spontaneously				

Greets familiar adults				
Indicates need for help by use of sound/gesture/picture				
Will approach adult to obtain food/toy, etc				
Will spontaneously approach adult when in need of help				
Will try to share interest or excitement with adult				
Will seek affection or comfort from adult other than family				
Will initiate a simple game with adult, e.g. pat-a-cake				
Will initiate a simple game with a child, e.g. chase				
Will give out snacks at break-time				
6. Emotional expression and understanding				
Recognises a smile and can imitate adult's exaggerated demonstration of a smile				
Recognises a sad face and can imitate this				
Recognises an angry face and can imitate this				
Can discriminate these expressions on an adult face and can produce these expressions on demand				
Can recognise and match expressions in photographs				
Can recognise and match expressions in drawings				
Can match these simple expressions to contexts, e.g. matching 'smiling face' to picture of birthday presents				
Can respond to a smile with a smile				
Uses sad expression if upset				
Uses angry face if cross				
Developing understanding of other expressions, e.g. fear, surprise				
7. Development of self				
Recognises mirror image/picture of self				
Knows own name – looks when called				
Knows own name – comes when called				
Knows own name – points to self when called				
Identifies/defends own possessions				

Shows preferences – for objects				
Shows preferences – for people				
Requests toys/activities/food he wants				
Makes choices when offered				
B. Communication				
1. Understanding simple verbal and non-verbal approaches	N	I	D	F
Responds when his name is called				
Follows simple instructions given 1:1, e.g. 'come here', 'sit down'				
Follows a close point, e.g. at a picture in a book				
Follows a distance point, e.g. at object across the room				
Follows your gaze to an object				
Follows simple instructions in small groups				
Follows simple instructions in large group/class setting, e.g. 'jump', 'run', 'stand still'				
Could bring something on request from another room				
2. Strategies for meeting his needs				
Meets his needs independently, e.g. gets chair, climbs up to cupboard – rather than seeking help				
Stands near object and cries/screams until adult comes to reach it				
Requests object by taking adult to it or taking adult hand to it				
Requests object by pointing to it				
Requests object by pointing and looking back to adult				
Requests object by use of symbol/picture or photo				
Requests action by use of gesture				
Requests action by use of symbol/picture/photo				
Requests object/action using words				
Protests by crying/anger				
Protests by using sign/symbol/gesture or word				

3. Engaging in social interaction				
Can nod for 'yes'				
Can shake head for 'no'				
Uses greeting/gesture/sounds or words				
Waves and says 'bye-bye'				
Calls for attention				
Uses names to get attention, e.g. 'Mummy'				
Will take turns in familiar verbal routines, e.g. rhymes				
Will indicate desire for 'more' in familiar verbal routines				
Will fill in gaps in familiar verbal routines				
Will initiate familiar verbal routines with sounds/gestures /words				
4. Joint attention strategies				
Expresses interest in something, using sound/gesture				
Expresses interest in something using words				
Will point at something to express interest and shares this by looking back at you				
Uses expressive gesture, e.g. clapping				
C. Play and Imagination				
1. Manipulative/Exploratory	N	I	D	F
Plays with object using non-specific action on all objects, e.g. mouthing, waving, banging, shaking				
Examines novel toy/object				
Plays with objects using appropriate actions, e.g. bangs with hammer, shakes bell, throws ball, crumples paper				
2. Organising				
Relates toys/objects non-specifically, e.g. banging together, piling up				
Systematically combines objects, e.g. dumps out of/puts into containers; nests/stacks cups; stacks rings; strings beads				
3. Structured/Constructional				
Fitting items together by trial and error, e.g. Duplo bricks				

Completes simple formboards/puzzles/pegboard patterns				
Evidence of planning in problem solving				
4. Cause and Effect/Means to an End play				
Makes a toy work, e.g. presses button to make clown pop up; operates wind-up toy				
Uses object to obtain item, e.g. a stick to pull a toy within reach				
Climbs to reach toy				
Rolls ball to knock skittles down				
Searches for and finds objects during play				
5. Interactive				
Tolerates adult's presence during play				
Allows adult to intervene in play				
Will give object to adult during play, e.g. to ask for help				
Participates in rough and tumble play				
Allows adult to imitate his actions in play, e.g. in musical interaction				
Responds to play routines with enjoyment, e.g. peek-a-boo				
Responds with anticipation in play routines, e.g. 'I'm coming to get you!', and action rhymes, e.g. round the garden				
Indicates for game/routine to continue				
Initiates games/routines				
Will tolerate 'teasing' element in games/routines				
Will introduce 'teasing' element in games/routines				
Will take turns in games/play				
<i>(See also Imitation and Turn-taking in Social Interaction section)</i>				
6. Pretend play – functional				
Uses objects out of context and without situational cues, e.g. takes empty cup to mouth; holds brush to hair				
Will play functionally with objects, e.g. gives doll a 'drink' (in imitation); pushes car into garage (on instruction); builds network of blocks (on request/spontaneously)				

Will use miniature representational toys, e.g. Playmobil				
7. Pretend play – symbolic				
Uses toy/material as if it were something else, e.g. a stick for a spoon; a brush for a microphone				
Pretends to play with an absent object, e.g. feeds toys imaginary food				
In imitation, engages in linked sequence of actions, e.g. takes doll for a walk to park, goes on swings/slide/home to bed				
Does the above spontaneously				
Will make toy be something else, e.g. Mum/policeman				
Will make toy feel something, e.g. crying/angry				
Will make toy act upon imaginary objects				
8. Pretend play – fantasy				
Child will be someone/something else, e.g. dog/Dad/nurse/ Superman				
Does something to or with an imaginary object, e.g. strokes 'cat'				
Adopts and acts out a role, e.g. bus-driver/pilot/shop customer				
9. Pretend play – social				
Little contact with peers				
Watches peers playing				
Some parallel play				
Idiosyncratic approaches				
Brief exchanges				
Joint focus in play				
Role enactment				
Role play sustained				



1. Personal, social and emotional development

To give the young child with autism the best opportunities for personal, social and emotional development, practitioners will need to pay particular attention to:

- establishing a relationship with the child based on consistency and predictability, developing the child's trust and confidence;
- carefully planning and structuring opportunities for the child to work alone, with a partner, in small groups and in larger groups;
- planning experiences which will enable the child to make choices and develop independence within the overall framework;
- sensitively supporting the child through activities (s)he finds challenging;
- identifying what rewards are effective in reinforcing appropriate responses;
- helping young children recognise their own feelings and those of the people around them.

<p>Learning</p> <p>Within this area of learning, children find out about who they are and where they fit in. They learn to respect others and develop social competence and emotional well-being.</p> <p>The young child with autism begins to trust adults who are consistent in their approach and responses.</p> <p>The child becomes comfortable with a setting which provides consistent routines through which he can begin to anticipate and predict the shape of the day.</p> <p>Young children with autism do not develop relationships with peers spontaneously.</p>	<p>Teaching</p> <p>Early Years practitioners have a crucial role in developing the social competence of the young child with autism.</p> <p>There may be a need to assign a key worker to the young child with autism in order to maximise consistency.</p> <p>Practitioners need to carefully structure activities and routines, giving visual prompts and clues to aid the child's understanding of what is expected of them.</p> <p>Specific social interaction skills need to be taught – using real social situations.</p>
<p>Stepping stones</p> <p>The young child with autism may find it hard at first to tolerate the proximity of other children.</p> <p>The child slowly begins to learn by watching others.</p> <p>The child slowly develops the ability to understand and accept change.</p>	<p>Examples of what children do</p> <p>Dean would play with the train set – as long as he had it to himself. If other children tried to join in, he moved away.</p> <p>Hannah used to stand watching other children playing with dough. Once they had left the activity, she would begin to explore the dough for herself.</p> <p>A picture timetable helped Jon understand what was going to happen each day at nursery.</p>

What does the practitioner need to do?

- Take on board what parents/carers tell you about the child's mood, interests and preferences.
- Start by following the child's lead, seeing what interests him, sit alongside him and gradually share the activity.
- Slowly involve one other child in the activity, introduce turn-taking.
- Carefully structure the activity so that each child's role is obvious.
- Note the child's favoured activities for use as potential rewards.
- Specifically teach imitation skills: 'Watch me! Do this!'.
- Extend this by asking the child to copy what another child is doing.
- Give clear visual clues to help prepare the child for new activities.
- Develop an awareness of the things which may upset the child.



2. Communication, language and literacy

To give young children with autism the best opportunities to develop skills in communication, language and literacy, practitioners will need to pay particular attention to:

- helping the child to understand what communication is;
- giving the child a range of verbal and non-verbal strategies through which to communicate;
- helping the child to comprehend the verbal and non-verbal communication of others;
- giving the child opportunities to link language with physical movement in action songs and rhymes;
- giving opportunities to link language (spoken and written) with real life experiences;
- helping the child to develop communication skills in social situations.

Learning

This area of learning includes speaking and listening, together with communication in its widest sense.

Communication is involved in all areas of learning within the Early Years curriculum.

The young child with autism may not understand what communication is, and may have very limited strategies for getting his message across.


Teaching


Practitioners need to be clear about when to take the lead in communication, and how to respond to the child.


When planning activities, the Early Years practitioner will need to be aware of the child's level of communicative competence.


Practitioners will need to respond to the child as if he has communicative intent, and equip the child with strategies for communication.

<p><i>Stepping stones</i></p> <p>Joint attention may be difficult to establish at first.</p> <p>The young child with autism may be slow to use and understand gestures such as pointing.</p> <p>The child's language may echo chunks of adult language. It may not be used with any communicative intent.</p> <p>The child may be slow to understand verbal instructions – particularly ones addressed to the whole class/group.</p>	<p><i>Examples of what children do</i></p> <p>At story time, Billy used to wander off – unaware that he should sit and share the story.</p> <p>Jenny would stand near the item she wanted reaching for her, but she didn't point at it or attract an adult's attention.</p> <p>Craig would recite whole sequences of language he'd heard on his favourite video.</p> <p>When the nursery teacher said, 'Blue group come into the story room', Joe carried on playing – until she said, 'Joe come into the story room'.</p>
<p><i>What does the practitioner need to do?</i></p> <ul style="list-style-type: none"> ● Use attention grabbing toys and activities, linking with the child's own interests. ● Introduce stories and action songs, one to one with the child or in a small group – before expecting him to sit with all the others at story/singing time. ● Exaggerate your facial expressions and gestures to emphasise their meaning. ● Specifically teach pointing – starting with a point which touches the desired item, leading to a distant point later. Use other children to help demonstrate pointing. ● Create situations which could prompt the child into using his language communicatively, e.g. 'forgetting' to give him a straw for his milk carton. ● Place yourself between the child and an item he wants (e.g. the next jigsaw piece or the next Lego brick). Encourage him to prompt you to reach the thing he needs. ● Use visual or musical cues to supplement verbal instructions, e.g. playing a particular piece of music to signal 'come and sit on the carpet'. ● In literacy, be aware that the child may learn to decode words quite quickly, but understanding the meaning of the words he reads takes much longer. 	

 3. Mathematical development To give young children with autism the best opportunities for mathematical development, practitioners will need to pay particular attention to: <ul style="list-style-type: none"> ● extending what may be an area of relative strength – the ability to recognise and manipulate shapes; ● linking mathematical concepts with real life situations and activities. 	
<p>Learning</p> <p>Within this area, children learn to match, sort and count.</p> <p>They learn to recognise patterns, make connections and work with numbers, shapes, space and measures.</p>	<p>Teaching</p> <p>Practitioners will need to make early mathematical experiences meaningful for the child.</p> <p>The child will need to be guided to see connections, and helped to generalise mathematical skills.</p>
<p>Stepping stones</p> <p>The young child with autism may have an interest in numbers.</p> <p>He may be able to link numerals to certain quantities.</p> <p>Shape puzzles may be a particular favourite.</p> <p>The child may be very good at straightforward calculations, but find number problems very difficult.</p>	<p>Examples of what children do</p> <p>As Andrew walked to nursery with his Mum, he pointed to door numbers asking, 'What's that?'</p> <p>Although Graham had no expressive language, he could look at any number of counters (up to 10) and point to the correct numeral.</p> <p>William could do puzzles upside-down because he was only looking at the shapes of the pieces – not the picture.</p> <p>Tom, aged 6, could easily solve $18 - 4 =$ but became very distressed when set the problem: 'There are 4 fewer boys than girls in the class. There are 18 girls in the class. How many boys are in the class?'</p>
<p>What does the practitioner need to do?</p> <ul style="list-style-type: none"> ● Create opportunities for children to use number language. ● Link the child's fascination for counting to real items. ● Build on any particular strengths in mathematical skills. Help the child show someone else what to do. ● As mathematical problems are introduced, make them realistic and close to the child's own experience. ● Continue to offer concrete number materials as the child is likely to have some difficulty with abstract number concepts. 	

 4. Knowledge and understanding of the world	
<p>To give young children with autism the best opportunities for developing their knowledge and understanding of the world, practitioners will need to pay particular attention to:</p> <ul style="list-style-type: none"> ● offering activities which give a range of opportunities for firsthand experience; ● helping the child reflect on those experiences and recognise his role in them; ● helping the child to draw upon past experiences to help him anticipate, predict, problem solve and make choices. 	
<p>Learning</p> <p>Within this area of learning, children develop the knowledge, skills and understanding to help them make sense of the world.</p> <p>The young child with autism may be confused rather than curious about his surroundings.</p>	<p>Teaching</p> <p>The practitioner has an important role in triggering curiosity in the young child with autism – who may not be naturally inquisitive.</p> <p>The Early Years practitioner will need to act as an interpreter for the young child with autism – helping him to make sense of past, present and future events.</p>
<p>Stepping Stones</p> <p>Some young children with autism show extreme curiosity for certain things.</p> <p>The child may have a fascination for technology.</p> <p>Most young children with autism are quick to notice even the smallest changes in layout or routine.</p> <p>Young children with autism are slow to develop an awareness of self.</p>	<p>Examples of what children do</p> <p>Every day when the nursery children played out, David went round the garden area lifting stones to see what insects and worms he could see. He made no attempt to show others his discoveries.</p> <p>If the computer was switched on, Henry monopolised it.</p> <p>Lucy was distressed on arrival at the crèche. It turned out that her favourite chair had been moved to the other side of the room.</p> <p>Jack would check his facial expression in a mirror to see what he was feeling.</p>
<p>What does the practitioner need to do?</p> <ul style="list-style-type: none"> ● Start from the child’s own interests, no matter how unusual. Encourage him to share these with others. Help him record the interest through drawing, writing, making a model, taking a photograph. ● Note what sort of changes are likely to cause distress and either avoid them or give the child clear warning, supported by visual clues. ● Set up simple problem-solving tasks, e.g. trying to work out how to operate a particular action toy. ● Help the child draw on past experience to answer the question, ‘What will happen if . . .?’ ● Use an interest in computers as an opportunity to increase the child’s ICT skills. ● Help the child develop an idea of the sequence of time from past to present, perhaps using photographs. ● Encourage the child to ask questions. ● Introduce language to describe emotions. ● Link this language of emotion to actual events and actions. ● Use opportunities to explain the emotions others must be feeling, drawing the child’s attention to body language and facial expression. 	

	
<p>5. Physical development</p> <p>To give young children with autism the best opportunities for physical development, practitioners will need to pay particular attention to:</p> <ul style="list-style-type: none"> ● helping the child recognise what is safe and unsafe in physical activity; ● overcoming any anxiety the child has related to physical activity; ● helping the child relate positively to other children during physical activities. 	
<p>Learning</p> <p>Within this area of learning, children develop skills of co-ordination and movement.</p>	<p>Teaching</p> <p>Practitioners will need to be vigilant with those young children with autism whose agility outstrips their sense of danger.</p>
<p><i>Stepping stones</i></p> <p>At first, the young child with autism may find going into another room for PE very challenging.</p> <p>Asked to 'find a partner', the young child with autism is likely to seem bewildered.</p>	<p><i>Examples of what children do</i></p> <p>Danny would go into the hall, but tried to stay near the walls. He seemed fearful of crossing the big space.</p> <p>All the other children rushed to get into twos. Bradley saw another child approach him and turned away.</p>
<p><i>What does the practitioner need to do?</i></p> <ul style="list-style-type: none"> ● Have clear safety rules which the child can understand. ● Give the child opportunities to explore the space available in his own time – at first perhaps when no other children are present. ● Help the young child with autism understand the language of co-operation as it relates to physical activity – such as 'wait' and 'take turns', using picture cues. ● Model 'finding a partner', and make sure the child understands what each partner has to do. ● Spend some time specifically teaching imitation skills which involve body actions and movement. ● Help the young child with autism initiate games such as 'tig'. (Tim was helped to use a PECS card to start this game. He would hand it to another child who then had to chase him.) ● Help the child recognise when he needs help and how to ask for it. 	

 <p>6. Creative development To give young children with autism the best opportunities for developing creative skills, practitioners will need to pay particular attention to:</p> <ul style="list-style-type: none"> ● offering a wide range of activities to which the child can respond by using many senses; ● giving the child sufficient time to explore and begin to develop ideas; ● using the real and concrete as a starting point for activities which become pretend and abstract; ● prompting the child to make connections between past and present experiences. 	
<p>Learning</p> <p>Within this area of learning, children become aware of different options and choices. They begin to make connections between one area of learning and another, extending their understanding. The area also includes role-play and imaginative play</p>	<p>Teaching</p> <p>Early Years practitioners have a key role in supporting children in developing independence and making choices.</p> <p>Practitioners can help the young child with autism reflect on previous experiences and learning – guiding them to make connections between past and present learning.</p>
<p>Stepping stones</p> <p>Some young children with autism actively resist messy activities.</p> <p>Variety of experience is rarely sought by the young child with autism.</p> <p>The child is likely to have a very literal understanding of what a particular object is for, and be slow in developing the idea that one object can represent another.</p> <p>The child may put on clothes from the dressing up box, but be unable to take on the role of someone else.</p>	<p>Examples of what children do</p> <p>Danielle would paint with a brush, but not with a sponge.</p> <p>Ryan loved the sand tray – when it was available, he wouldn't try any other activities.</p> <p>The nursery teacher had a plastic banana and pretended to eat it. Gemma copied her. Then the teacher held the banana to her ear and spoke into it as if it was a telephone. Gemma looked shocked and shouted 'No'.</p> <p>Children were putting on aprons and pretending to cook. Mitchell put on an apron, but just played with the train set.</p>
<p>What does the practitioner need to do?</p> <ul style="list-style-type: none"> ● Offer a variety of textures and sensory experiences and discover what the child can tolerate. ● If a child heads for one activity to the exclusion of all other play opportunities, don't have that activity available every day – or just bring it out for part of the session. ● Get involved in play activities and 'push' the child's imagination. Rosie was sitting inside a 'boat' constructed by other children. The teacher put her hand into the 'water' and 'splashed' another child. That child 'splashed' the teacher – who dramatically wiped the 'water' from her face. The teacher then 'splashed' Rosie who laughed and 'splashed' the teacher back. ● Encourage role-play by starting with people and situations very familiar to the child. ● Support children in making choices by limiting the options available. ● Help children recall and review things they have already done – use photographs to help. 	