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APPENDIX A

BATTERY OPERATED TOYS	
MATERIALS:	
Toys:	Battery operated elephant, –car; and –worm
Switches:	Joy stick-, large pressure-, and small pressure switch.

Phase 1

Set criteria

- Understand basic instructions (verbal and demonstrations) how to do the activity
- Do basic movement to indicate active participation
- Visual focus (attention) on the activity for 75% of the time

1. "Look, this is an elephant." Guiding the child's eyes to the toy.
2. "I am going to make him dance."
3. Look, I am pushing the joystick
4. Therapist pushes the joystick to activate the toy.. Stop after 5 seconds. "Ooh, what happened?! The elephant danced!"
5. Repeat 3 times and then stop again.
6. "Do you want to play with the elephant?"
7. "Make the elephant dance!" Wait for a response.
8. If the child does not respond, hand-over-hand together push the joystick. Therapist says: "Push the stick to make the elephant dance."
9. Repeat until child grasps the rules and starts initiating switch activation.

Phase 2

What / How I probe	Child's response	Strategies
1. "Look, this is an elephant." Guiding the child's eyes to the toy. *Make the sign of the elephant.*	Attention	Guide eyes. Activation: tone of voice. Good positioning for eye control.

What / How I probe	Child's response	Strategies
2. "I am going to make him dance." *Therapist imitates dance with body language and make gesture for dance* "Can you dance?" Wait for response.	Attention	Activation: tone of voice, movement in horisontal plane, make eye contact. Commenting on 3D objects and concepts by indicating similarities and differences.
3. "Look, I am pushing the joystick."	Visual tracking Cause-effect	Describing the actions. Activation: tone of voice. Initiating actions.
4. Therapist pushes the joystick to activate the toy. Stop after 5 seconds. "Ooh, what happened?! The elephant danced!" *Therapist makes gesture for "What".*	Visual tracking and scanning Understand short sentence Attention Cause-effect	Surprise element. Multi-sensory media. Animation of the actions and objects. Incidental learning.
5. Repeat 3 times and then stop again.		Repetition to learn to learn
6. "Do you want to play with the elephant?"	Understand instructions Turn taking	Establish back and forth action. Maintain eye contact. Use simple/elementary sentences. Indirect teaching model.
7. "Make the elephant dance!" *Make the sign for dance* Wait for a response.	Understand instructions Gross Co-ordination	Time delay. Requesting. Use simple sentences.
8. If the child does not respond, prompt: hand-over-hand together push the joystick. "Push the stick to make the elephant dance."	Gross Co-ordination Visual tracking Cause-effect Understand instructions	Object interaction – allow manipulation. Physically holding the child. Feedback for cause-effect. Horisontral tracking. Auditory and/or visual cues. Mand-model

What / How I probe	Child's response	Strategies
9. Model + pause + observe = until child starts initiating switch activation.	Gross Co-ordination Initiating Attention Request action	Repetition Mand-model Visual, auditory, gestural prompt → visual, auditory → auditory → exaggerate facial expression → no prompt
10. "What is the elephant doing? He claps his hands, like his……. (imitate clapping hands). Can you clap hands?	Imitation	
11. Give the C two options. The elephant on the joy stick switch and the car on the large pressure switch. Stop. "With which one do you want to play with, the elephant or the car?" "Do you want to play with the elephant?" – Point to the elephant, wait for yes/no response; "Or do you want to play with the car?" – Point to the car and wait for yes/no response. Wait for response. If C indicates preference to the elephant/car. "Yes, you would like to play with the elephant/car." Point to elephant/car (choice of the child). "This is an elephant." Activates the elephant. Look at his ears, nose, eyes, feet, drums." "This is a car." Activates the car. Look at the lights, wheels, and the man sitting inside."	Identify 3D objects/concepts Choice making Verbalisation Vocalisation Understand instructions Request for objects Co-ordination Indicate preference Maintain interaction Attention	Establish preference Feedback after choice making. Differentiating between objects/concepts. Repetition. Guide eyes to toys. Commenting on objects. Requesting. Time delay.

What / How I probe	Child's response	Strategies
12. "Switch on the elephant/car." Wait for response. Prompt if no response. "Look what you have done! The elephant is dancing/the car is riding. That is good. You are doing great."	Co-ordination Grasp Reaching Maintain interaction Attention Visual tracking and scanning Cause-effect	Surprise element. Feedback.
13. "Listen, to the drums/song." Imitates the sound of the drums/song.	Auditory attention Imitation of sounds	Animation. Commenting on actions. Describing objects. Indirect teaching model.
14. Therapist takes child's hand away from switch. The elephant/car stops and sound stops. Wait for the C to respond (15 sec).	Initiating Request action/object Maintain interaction Co-ordination	Break in the routine. Time delay.
15. If the child does not respond, prompt. "Can you make the elephant dance/car ride?" Wait for response. Repeat 3x.	Understand instructions Initiating	Cues – gestural, vocalisation, verbal, visual. Time delay.
16. Switch the elephant/car on and make it ride behind a barrier. Stop and ask the child where it is. Repeat 3x during The session.	Object permanence	Request Comment
17. Play with the other toy, which child did not choose. Repeat naming of concepts on the different toys and show function of each e.g. turning the wheels on the bottom.	Identify 3D objects/concepts Visual tracking Vocalisation Verbalisation Attention Fine Co-ordination	Change auditory and visual cues. Animation. Incidental teaching. General statements. Commenting on objects. Encourage manipulation.

What / How I probe	Child's response	Strategies
18. Unplug the switch. Child activates the switch and nothing happens. "What happened? What must I do?" Wait to see if C requests intervening. If not, indicate to the C what happened and explain why the toy is not working. Repeat whole scenario.	Request for action Cause-effect Problem solving Co-ordination	Present obstacle. Establish a routine. Break in the routine. Violate the routine. Repetition.
19. Present three toys to the child. Elephant, car and worm with joy stick, large and small pressure switches. Teach the child the names of the three objects and ask "With which toy do you want to play with?" Wait for child to indicate preference.	Choice making Vocalisation Verbalisation Identify 3D objects/concepts	Violate routine. Activation: Exploration.
20. Put the two objects in front of the child. "Can you first of all switch the elephant on, and then switch on the car." If child is successful, grade the same instruction to a 30-step instruction by including the third toy.	Understand 2 step instructions Understand 3 step instructions	
21. Repeat naming of concepts. Repeat identifying functional use of each.	Vocalisation Verbalisation Identify 3D objects/concepts	Identify 3D object/concepts. Animation. Physical touch.
22. Show a picture of each object and indicate the similarities between the picture and the object. Indicate the differences between each picture and object. Ask the child to match the object and the picture. "Show me, where is this (car's) picture? Point to the car and then sweep over all the pictures.	Matching 3D to 2D	Visual attention Learning principles of assimilation

FINGER PAINT
MATERIALS:
Fingerpaint (red, blue, yellow), squirt bottles, mirror against the wall, shaving foam, cloth, towel

Phase 1
Set criteria

- Understand basic instructions (verbal and demonstrations) how to do the activity
- Do basic movement to indicate active participation
- Visual focus (attention) on the activity for ¾ of the time

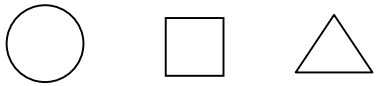
1. Look this is you in the mirror
2. Give me your hands / where is your hands?
3. Put some shaving foam on hands (Therapist's and child's)
4. Look I am painting on the mirror
5. Can you do the same?
6. If child does not respond, use hand-over-hand to teach the child the movements
7. T says: "Can you paint on the mirror?"
8. Repeat until the child grasps the rules and starts initiating the movements

Phase 2

What / How I probe	Child's response	Strategies
1. Child sits in front of a mirror that stands on the floor against a wall. "Look who is in the mirror (indicate to child in the mirror). It is _____ (child's name).	Recognise objects/body parts Visual tracking	Activation
2. We are going to paint with our hands. "Where are your hands?" If the child does not show hands, the therapist touches the child's hands and directs his gaze towards his hands.	Recognise objects/body parts Attention Visual tracking Gesture	Verbal, gestural cues Range of visual tracking

What / How I probe	Child's response	Strategies
3. Therapist puts some shaving foam on the mirror. Take his hands and put them in the shaving foam. "Oh, this feels cold." Take hands away from mirror. "Look what you have on your hands. Let's cover the mirror." If child does not respond, take his hands and make circular actions on the mirror. Therapist takes her hands away. Wait for a response.	Imitation Gross co-ordination	Comment on action Moulding / Physical guidance Modelling – say the words Mand model
4. "Let us do it some more." Repeat. "Now it is your turn." Encourage any form of exploration. Hit the mirror and wait for imitation. Animate sounds with action: "clap, clap, clap."	Turn taking Imitation: Verbal & non-verbal	Shaping
5. "Hold out your hands." Wait for the C to respond or to hold his hands out for some more foam. If the child does not respond, assist him with action.	Initiate movement Gross co-ordination Understand instructions	Time delay
6. Therapist puts some foam on the mirror and squirts red, yellow ***or*** blue paint inside the blob of foam so that the child cannot see it. "There is some more foam, can you paint it over the mirror?"	Understand instructions Initiate movement	Mand model
7. Look what you have done! Gesture. Look at the colour. It is red. That is lovely. Can you draw this (Therapist makes squiggles in the foam)  Wait for child's response and see if he will imitate the action. If no response takes child's hands and with child's fingers make patterns in the foam. Guide eyes and attention to mirror if there is a lapse in attention. "Look what you are doing, you are making patterns on the mirror."	Visual focus & tracking Attention Turn taking Emotional response Fine co-ordination Gross co-ordination Gestures 2-step instructions	Surprise element Sensory stimulation Exploration Requesting ▲ pathways Establish routine – break routine Obstacle Mand model

What / How I probe	Child's response	Strategies
Therapist takes her hands away and waits for C to imitate. "Now it is your turn." Therapist draws squiggle. "This is a worm. Cover the mirror and draw a worm."  If no response, assist with movement. Uses flat hands and individual fingers. "What are you drawing? You are drawing a worm. Let us make like a worm." Do the gesture of a worm.		
8. Therapist withholds shaving cream. Wait for a response. "What do you want? Do you want some shaving cream?" When the child indicates a form of request, provide him with the shaving cream.	Requesting	Provide inappropriate material Time delay
9. Introduce next colour. "We are now going to paint with the blue paint." Wait for child to respond to new situation. If he does not respond guide his attention to new situation. Repeat as described above. Repeat with yellow paint. Repeat verbal and non-verbal imitations. Show child the paint, do not unscrew the paint bottle top, show the child the bottle, wait for a request / problem solving skills.	Recognise concepts Visual focus & tracking Attention Turn taking Emotional response Fine co-ordination Problem solving Request	Joint action Surprise element Request
10. "With what colour do you want to paint now?" Therapist holds 2 colours for the child to choose from. Then therapist holds 3 colours for the child to choose from.	Choice making	Create preference Provide opportunities for choice making
11. Therapist takes paper towel and cleans a part of the mirror. "Who (gesture) is that in the mirror. Is it _____ (name of the child)." Therapist covers the mirror again with foam.	Object permanence Gestures Object recognition	

What / How I probe	Child's response	Strategies
"Where is _____ (name of child)? " Wait for the child to react, if not, repeat action and teach child concept of object permanence. Grade from partially hidden to totally hidden.		
12. Therapist vocalises all actions child is doing. e.g. when child hits his hands on the mirror, the therapist should rhythmically imitate sounds with the child actions.	Imitation	Enhance by animation of sounds
13. Therapist covers the mirror. Draws a ball/circle. "This is a ball. Can you cover the mirror and draw a ball?" Therapist covers the mirror and wait for a response. If no response, assist movement (flat hand / individual finger). "What is this?"  "Let us draw a circle". Therapist takes the child's hand and draws a circle. "Now it is your turn." Wait for the child to respond. If no response or incorrect response, repeat the action. Repeat this step with the other shapes as well.	Object recognition Imitation Gesture 2-step instructions Fine co-ordination	▲ Pathways Animation Tone f voice
14. "Now we are finished. We are going to put everything away. Give me the paint, the foam and then clean your hands with the towel."	3 step instructions	

STORYTELLING
MATERIAL:
Truck, train, hand-puppet (doll), aeroplane, telephone, box.
Pictures of all of the above.

Phase 1
Set criteria

- Should show auditory attention (listening skills)
- Understand basic instructions (verbal and demonstrations)
- Functional object use of one of the objects presented
- Visual focus on the objects presented

1. "These are different toys that we are going to play with. Show me the car."
2. Wait for response to see if the child can identify the car.
3. "What can a car do? It can drive around. Can you drive the car?"
4. Therapist takes the car and drive in a large arc around the child.
5. "Look at the car. It is driving all around."
6. "Can you drive the car around?"
7. Wait for a response to see if the child knows the functional use of a car.

Phase 2

What / How I probe	Child's response	Strategies
1. *I am going to tell you a story about toys today. Do you know toys? This is a story about a train, a truck, a telephone, an aeroplane, and a doll (San).* Therapist shows the object as the words are spoken. Make the signs of train, car, aeroplane, and doll.	Attention Object recognition Gesture imitation	Guide eyes. Activation: tone of voice. Good positioning for eye control. Commenting on the 3D objects.
2. *One day the train was driving outside. Chooka, chooka, chooka.*	Visual focus & tracking	Guide eyes.

Therapist pushes the train around in the child's visual field, imitating the sounds of the train. "What is this? What does the train do?" *Then the truck comes driving along and he does not look where he is going. Brmm, brmm, brmm.* "What is this? What does the truck do?" Therapist drives truck over child's body to get child's attention and down to the floor again. Therapist imitates the sounds of the truck.	Attention Object recognition Speech Imitation: verbal & non-verbal	Activation: tone of voice. Good positioning for eye control. Commenting on the 3D objects.
3. *The truck does not see the train in front of him. All of a sudden there is a big crash as the truck drives into the train. Caboom! The poor truck and train turned over.* Therapist acts scene out. *Oh, the poor train and truck. They both were hurt. What are we going to do?* Make the general sign of "What"	Gesture	Surprise element Gross coordination
4. *Just then the aeroplane came flying past. Eeoo, eeoo, eeoo. He sees that the train and the truck have been hurt.* Blow on the propeller. Therapist gets aeroplane out of box. Imitate the sounds of the aeroplane and flies with the plane in different planes "What is this? What does the aeroplane do?" Wait for response. If no response, teach the child to imitate to blow the propeller of the aeroplane.	Recognise objects Visual focus & tracking Imitate: verbal & non-verbal	Horizontal, vertical and diagonal planes Changing the speed of the flight from slow to fast Guide child's eyes to the aeroplane and accommodate speed according to the child's abilities Time delay
5. *Don't cry! I am going to help you. .* Gesture. *I know who to phone to come and help you. Let us phone San, (the doll).* Make the sign of "help". Therapist gets telephone out of the box, holds it to her ear and dials. Who is going to phone San? Are you or am I? It is your turn. Therapist holds the telephone to child's ear and assists him in dialling. *Hello, this is San speaking. Who's speaking?*	Surprise element Imitate gesture Imitate: verbal & non-verbal 2 step instruction Turn taking	Commenting on objects Describe action of the objects Animation

Encourage the child to say his name. *My name is _____ .* *Hello, _____. Why are you phoning? We have a problem. There was a big crash and the truck and train has been hurt. Could you please come and help us? Yes, I will come now.* Head nodding. *Bye-bye, _____ (child's name)* Gesture. Encourages child to say bye-bye to San. Repeat the same sequence and encourage child to use the phone in functional manner. Turn taking. Therapist puts the telephone back in to the box.		
6. Therapist puts on San, the hand puppet (outside the child's visual field). San jumps out of the box and tickles child. *Hello. What is your name?* Encourages child to say his name. Therapist can say it first and then child should imitate the name. *My name is _____ .* *Can you show me where truck and train is?* Gesture. Encourages child to tell San where the objects are. Guide child's eyes if he has difficulty in locating them. *Oh, poor truck and train. What is wrong with the truck, it is not working."* Take the wheels out, so it cannot roll. Wait for the child to identify the problem and see if he will try to fix it. *San picks up the train and the truck and puts the wheels on after the child identified the problem. That is better, now you can drive again. Bye-bye _____.* Gesture. Encourages to say/wave bye to San. Imitates first and waits for child to respond.	Imitation: verbal & non-verbal Verbalise Request object Problem solving Attention Understand short sentences Cause-effect Grasp and reach	Sensory stimulation Learning principles Reasoning Time delay Incidental teaching General statements
7. *Now the train and the truck are very tired, they want to go to bed.* Gesture sleep. *Say bye-bye train.* Gesture. *Chooka, chooka, chooka.* Use road map to drive to the garage. Therapist pushes train away and imitates sound and wait for child to	Imitation: verbal & non-verbal Attention Object permanence Verbalisation	Surprise element Present obstacle Request

respond. *Where is the train now*? Gesture. Child has to look for the train, if he cannot find it guide his eyes to where it is hidden. Repeat the same with the truck.	Co-ordination 2-step instructions Gesture Functional object use	
8. *Let's see what we played with today. We played with the train, the truck, the aeroplane, the telephone and the doll, San*. Therapist takes out pictures of all the objects used in the story and matches them with the real objects. Take one picture at a time and put it away when finished with it. Indicate to the child the similarities between the picture and the object and use the objects functionally again in order for the child to remember what happened in the story. Therapist still imitates words if the child needs some assistance. Therapist takes 2 pictures and the matching objects and asks the child to indicate the picture named by the Therapist. "Can you give me the _____, _____, _____." The child has to say bye to each picture after naming them correctly. Which one did you like best? Present all the objects and let child choose.	3-step instructions 3D – 2D match Object recognition Requesting Choice making	Surprise element Learning principles Commenting on objects Description of actions

POP-UP TOYS
MATERIALS: Jumping jack, piano with animals, non-slip mat

Phase 1

Set criteria

- Contingent reaction, start to grasp the concept of cause-effect with maximal guidance
- Visual tracking
- Understand basic instructions (verbal and demonstration) to do the activity

1. "Look, this is Jack" Guide the child's eye to the toy.
2. "I am going to put his away, he wants to sleep"
3. Put the piano in front of the child.
4. "Look, there are different animals sleeping in this house."
5. Take the child's hand and press on one of the keys.
6. "Look the dog came out to play with us."
7. Therapist put the dog away.
8. "Can you get the dog out of the house?"
9. Wait for a response to see if the child will press one of the keys.
10. After a response from the child the therapist says, "I am going to put them all away." Push the animals inside.
11. "Give the toys to me, I want to put them aside."

Phase 2

What / How I probe	Child's response	Strategies
1. With which one do you want to play with? Would you like to play with this one - indicates the pop-up toy, or would you like to play with this one - indicates the Jumping Jack. Wait for child to make a choice and accept any form of indication. Put the other toy to the side.	Choice making Gesture – which	Establish preference
2. Jumping jack		

What / How I probe	Child's response	Strategies
• Therapist presses down on lever and demonstrate. "Oooh surprise. Hello, my name is Jack. What is your name?" Wait for response. "Your name is _____." Encourage child to say his/her name.	Imitation verbal & non-verbal Cause-effect	Activation – surprise element Mand model Commenting on objects
• Jack wants to sleep. Gesture sleep. Let's put him back. Gesture "put back". Assist with closing the lid. "Bye bye Jack. Gesture wave. Wait for response before assisting with movement.	Imitation: Non-verbal & verbal Gesture – sleep, put back, bye bye Turn taking Gross co-ordination Imitation Cause-effect	Joint activation Gesture Animation
• Where is Jack? Let us call him. Wait for response. If C experience difficulty with speech, wait for request. Press lever to get jack out of box. What noise does Jack make. Press lever. "Oink, Oink." Can you make to same noise as Jack?	Imitation: verbal & non-verbal Gesture - Where Understand instructions Object permanence Cause-effect Request Problem solve Object recognition Request Fine co-ordination	Time delay Grade object permanence – child follows object till out of visual field Obstacle presentation Activation – animation & tone of voice
• Match 2D picture to the 3D object Show the picture of Jack and identify all the components of the picture. Ask child to indicate the object after presentation of one picture (Jack), then of two pictures (Jack and dog). Present the 3D object of "Jack" and ask the child to point to the correct picture.	Match 2D picture to 3D object	Indicate similarities and differences in picture and object Learning principles
• Repeat until child indicates that learning took place.		

What / How I probe	Child's response	Strategies
• Put Jack back. "Give Jack to me so that I can put him away."	2-step instructions	Gesture – put back
3. Piano with the animals		
• "Look here is a blue key, a red key, a yellow key"	Visual tracking	
• "What will happen if you press the keys?" Therapist presses one key while child is looking on. "Oooh, look it is a dog." Direct eyes to object. "What sound does a dog make? Woof, woof." Encourages child to imitate sound. "Put the dog away, say goodbye to the dog (wave)." Wait. If no response use hand-over-hand. "Who is going to sleep?" "Where is the dog? Can you find the dog?" Ask the child where the dog is. "Press the key." Demonstrate if necessary.	Speech Understand instructions Imitation: verbal & non-verbal Object permanence Gestures: sleep, who, what, dog, worm, bear, bye bye, Request Turn taking Cause-effect	Gesture Grade object permanence Activation – animation & tone of voice Mand model Requesting
• Present an obstacle by holding hand over the objects so it cannot jump up.	Problem solve Request	Obstacle presentation
• Repeat with each key. Bear – claw gesture (demonstrate) Worm -  (demonstrate) Dog – ears flapping	Same as above	Same as above
• Match 2D picture to the object. Similar procedure as above. Let all the objects out. Ask the child to indicate the object after presentation of one picture (first dog, then worm, then bear)	Match 2D picture to 3D object	Indicate similarities and differences in picture and object
• Repeat the whole activity 3x.		
4. "With which one do you want to play with now?" After a choice has been made, follow the same instructions as above for each activity. Repeat 3x.	Choice making	

SAND PLAY
MATERIALS:
Sandpit, bucket and spade, cups, plastic animal (dog & bird), sieve, sand wheel

Phase 1
Set criteria

- Understand basic instructions (verbal & demonstrations) to do the activity
- Contingent reaction, start to grasp the concept of cause-effect
- Functional object use of one object

1. "We have a lot of toys here today. This is a cup and we scoop the sand with it. Then we pour the sand."
2. "Can you do that. Here is a cup for you." Therapist demonstrates again while the child is following her lead.
3. Repeat this until you observe that the child understands the concept.

Phase 2

What / How I probe	Child's response	Strategies
1. "What is this? This is your foot." Cover the child's feet. "Where are your feet?" Wait for a response before assisting in uncovering feet. Repeat with hands.	Object permanence Object recognition Visual tracking Attention	Grade object permanence • going out of visual field • partially hidden • totally hidden
2. "Look, this is a dog. What sound does a dog make?" Give gesture of dog. Imitate the sound. "Woof, woof" Dog walks up the child's arm while imitating the sound. "What is this?" Encourage child to say "dog". Repeat if no response.	Object recognition Speech Gesture	Activation • animation • tone of voice • physical contact Mand model Comment on objects

3. Repeat the same steps with "the bird".		
4. Hide the dog partially in the sand. "What is hiding here?" Guide the child eyes to the object. Help to uncover the animal. Repeat with bird.	Object permanence Problem solving Visual tracking Speech	Grade object permanence
5. Put the dog in the sieve. Cover with sand. "Where is the dog? Shake the sieve!" Can use hand-over-hand if child does not imitate. "Look what happens! The sand falls through the holes. Here is the _____." "Here is a bird. The sound of a bird is "tweet-tweet". Do you want to hide the dog or the bird?" "What is this, What sound does it make? Repeat with both animals. Repeat 3x.	Imitation: verbal & non-verbal Object recognition Object permanence	Joint action Activation Comment on objects Comment on actions Mand model
6. Hide the dog and the bird in the sand. "Find the animals." Wait until both animals were retrieved. "Put the dog in the bucket and give the bird to me." Repeat 3x.	1-2-step instructions Object permanence	Time delay
7. "Let us play with the sand wheel. " Identify the sand wheel. "Look the sand wheel can spin." Demonstrate. "Can you make the wheel turn?" Wait for response before hand-over-hand approach. Repeat 3x.	Object recognition Imitate Gross co-ordination Visual tracking	Comment on objects Comment on actions Mand model Time delay Activation

8. "Where is the cup?" Wait for response. If the child cannot identify the cup, teach the child the elements of a cup and its functional use. "Look what we do with the cup." Scoop sand into the sand wheel to make it turn. "Ooh, the wheel is turning!" Wait for response. "Can you do the same?" Facilitate turn-taking Break the routine. Put your hand over the lid. Wait for request. Repeat 3x.	Object recognition Functional object use Imitation Turn taking Requesting Visual tracking	Activation - Surprise element Joint action Present obstacle Comment on action ▲ pathways
9. When the bucket is full, demonstrate how to empty the bucket Repeat but wait for the child to empty the bucket.	Imitation	
10. "We are now finished." "Put the dog in the bucket, close the lid, and give it to me."	3-step instructions	

Symbolic Play Scale Check List

Scoring sheet

Name of child _____ **Date _____**

Stage		Play	Language
Stage 1	9 – 12 m		
Stage 2	13 – 17 m		
Stage 3	17 – 19 m		
Stage 4	19 – 22 m		
Stage 5	22 – 24 m		
Stage 6	2½ years		
Stage 7	3 years		
Stage 8	3 - 3½ yrs		
Stage 9	3½ - 4 yrs		
Stage 10	4 – 5 yrs		

APPENDIX B

Symbolic Play Scale Check List

Westby, C

PLAY	LANGUAGE
Stage I – 9 to 12 months	
❄ Awareness that objects exist when not seen: finds toy hidden under scarf. ❄ Means-end behaviour – crawls or walks to get what he wants: pulls string toys. ❄ Does not mouth or bang all toys – some used appropriately.	❄ No true language: may have performative [words, words that are associated with actions or the total situation] Exhibits following communicative functions: ❄ Request [instrumental] Command [regulatory]
Stage II – 13 to 17 months	
❄ Purposeful exploration of toys: discovers operation of toys through trial and error: uses variety of motoric schemas. ❄ Hands toys to adult if unable to operate.	❄ Context dependent single words, for example, child may use the word "car" when riding in a car, but nor when he sees a car: words tend to come and go in child's vocabulary Exhibits following communicative functions: - Request - Protesting - Command - Label - Interactional - Response - Personal - Greeting
Stage III – 17 to 19 months	
❄ Autosymbolic play, for example, child pretends to go to sleep or pretends to drink from cup or eat from spoon. ❄ Uses most common objects and toys appropriately. ❄ Tool-use [uses stick to reach toy]. ❄ Finds toys invisibly hidden [when placed in box and box emptied under scarf]	Beginning of true verbal communication. Words have following functional and semantic relations. - Recurrence - Agent - Existence - Object - Denial- Non-existence - Rejection - Location - Action or state - Object or person associated with object or location
Stage IV – 19 to 22 months	
Symbolic play extends beyond the child's self: ❄ Play with dolls: brushes doll's hair, feeds doll a bottle, or covers doll with blanket. ❄ child performs pretend activities on more than one person or object: for example, feeds self, a doll, mother, and another child. ❄ combines two toys in pretend play, for example, puts spoon in pan or pours from pot into cup.	❄ Refers to objects and persons not present. Beginning of word combinations with following semantic relations. - Agent-action - Action-locative - Action-object - Object-locative - Agent-object - Possessive - Attributive - Dative

PLAY	LANGUAGE
Stage V – 24 months	
❄ Represents daily experiences: plays house – is the mommy, daddy or baby: objects used are realistic and close to life size. ❄ Events short and isolated; no true sequences: some self-limiting sequences – puts food in pan, stirs and eats. ❄ Block play consists of stacking and knocking down. ❄ Sand and water play consist of filling, pouring and dumping.	❄ Uses earlier pragmatic functions and semantic relations in phrases and short sentences. The following morphological markers appear: - Present progressive [ing] on verbs - Plurals - Possessives
Stage VI - 2½ years	
❄ Represents events less frequently experienced or observed, particularly impressive or traumatic events. ❄ - Doctor-nurse-sick child - Teacher-child - Store-shopping ❄ Events still short and isolated. Realistic props still required. Roles shift quickly.	Responds appropriately to the following WH questions in context: - What - Who - Whose - Where - What ❄ Asks WH questions – generally puts WH at beginning of sentence. ❄ Responses to why questions inappropriate except for well-known routines, such as, "Why is the doctor here?" …."Baby sick." Asks why, but often inappropriate and does not attend to answer.
Stage VII – 3 years	
❄ Continues pretend activities of Stages V and VI, but now the play has a sequence. Events are not isolated, for example, child mixes cake, bakes it, serves it, washes the dishes: or doctor checks patient: calls ambulance, takes patient to hospital and operates. Sequence evolves … not planned. ❄ Compensatory toy … re-enactment of experienced events with new outcomes. ❄ Associative play.	❄ Uses past tense, such as "I ate the cake …. I walked." ❄ Uses future aspect [particularly "gonna"] forms, such as, "I'm gonna wash dishes."
Stage VIII – 3 to 3½ years	
❄ Carries out play activities of previous stages with a doll house and Fisher-Price toys [barn, garage, airport, village] ❄ Uses blocks and sandbox for imaginative play. Blocks used primarily as enclosures [fences and houses, for animals and dolls]. ❄ Play not totally stimulus bound. Child uses one object to represent another. ❄ Uses doll or puppet as participant in play.	Descriptive vocabulary expands as child becomes more aware of perceptual attributes. Uses terms for the following concepts [not always correctly]: - shapes, sizes, colors, texture, spatial relationships ❄ Gives dialogue to puppets and dolls ❄ Meta-linguistic language use, such as, "He said.." ❄ Uses indirect requests, such as, "Mommy lets me have cookies for breakfast." Changes speech depending on listener.

PLAY	LANGUAGE
Stage IX - 3½ to 4 years	
❄ Begins to problem-solve events not experienced. Plans ahead. Hypothesizes "what would happen if …". ❄ Uses dolls and puppets to act out scenes. ❄ Builds 3-dimensional structures with blocks which are attempts at reproducing specific structures child has seen.	Verbalizes intentions and possible future events: ❄ Uses modals [can, may, might, will, would, could]. ❄ Uses conjunctions [and, but, if, so, because] Note: Full competence for these modals and conjunctions does not develop until 10-12 years of age. Begins to respond appropriately to why and how questions that require reasoning about perception.
Stage X – 5 years	
❄ Plans a sequence of pretend events. Organizes what he needs – both objects and other children. ❄ Co-ordinates more than one event at a time. ❄ Highly imaginative. Sets the scene without realistic props. ❄ Full co-operative play.	Uses relational terms [then, when, first, next, last, while, before, after]. Note: Full competence does not develop until 10-12 years of age.

APPENDIX C

INCLUSION POLICY OF ALMA SCHOOL

1. To be accepted in Alma School, a leaner must comply to the following:

    1.1 Comply with age requirements as established by the Department of Education of the Gauteng Province.

    1.2 Primarily be classified with intellectually impaired and cerebral palsy.

    1.3 To be able to communicate sensibly at the time of admission, or shows the latent ability to communicate with the aid of specialised education programmes to make basic needs known and to understand and execute instructions. (e.g. to be able to respond to his/her name).

    1.4 To be educated in English or Afrikaans.

    1.5 Not older than 15 (fifteen) years on fist admission into LSEN schools.

    1.6 No indication of psychiatric conditions.

    1.7 To be orientated towards himself/herself as well as the environment.

    1.8 To be able to make eye contact, even if only fleeting due to physical conditions.

    1.9 The learner's behaviour should not be disruptive in the classroom (e.g. aggression).

    1.10 The child with severe disabilities may be accepted if he/she has enough head control to maintain a functional position for a whole school day, and in which the child could be fed in an upright position.

    1.11 The learner should have the potential to benefit from the school's stimulation- and perceptual programme as well as the Adapted Curriculum 2005.

2. Learners could be admitted temporarily: -

    2.1 For a time of probation of one term.

    2.2 Until the learner does not comply with the above-mentioned criteria.

    2.3 Until the learner no longer benefits from the school programme any more.

3. Parents applying for their child should supply the school with: -

   3.1 A certified copy of the child's birth certificate

   3.2 A certified copy of the child's immunisation for polio, measles, tuberculoses.

4. The admission to the school is liable and in agreement with the Regulations with regard to the admission of Learners to Public schools, Law on School Education, 1995 (Law no. 6 of 1995) published on 4/38 of 2001.

MULTIPLE MEASUREMENT DAILY EVALUATION FORM **APPENDIX D**

ACTIVITY:			SUBJECT:		DATE:	
	Functional outcome	**0**	**1**	**2**	**3**	**N/A**
Sensorimotor	Visual tracking	Able to focus on an object	Able to scan between two objects	Visually tracks an objects in middle visual range	Visually tracks an object through 180° without losing the object	
	Imitation (non-verbal)	No response to imitate a movement	Awareness to imitate a movement but cannot plan the action	Tries to imitate the movements but are not always successful	Is successful in imitation of all movements	
	Gross co-ordination	Swipes at an object, reaching for but may not contact object	Visually directed reach, tends be clumsy	Satisfactory: can perform task but lacks skill and comfort	Smooth, accurate movements	
	Fine co-ordination	Great difficulty in manipulating tools and materials	Frequent trouble with fine detail and accurate manipulation of tools and materials	Occasionally has trouble with accurate and smooth movement in manipulating tools and materials.	No problems with fine movements and manipulations tools and materials.	
Cognitive	Attention (15 min session)	Lack of attention 10 min+	Lack of attention for 7-8 min	Lack of attention for 4 min	No difficulty to pay attention during the full session of 15 minutes	
	Object permanence	No object permanence	Searches for an object that moves out of visual field	Searches for a partially hidden object	Searches for hidden object	
	Object recognition	Does not identify any object on request during the activity	Identifies one object on request during the activity	Identifies two objects on request during the activity	Identifies four objects on request during the activity	
	Matching objects and 2 D pictures	No attempt to match	Matches 1 object to corresponding picture	Matches 2-3 objects with corresponding pictures	Matches four objects with corresponding pictures	
	Functional object use	Does not know the functional use of any object used in the activity	Knows the functional use of one object used in the activity	Knows the functional use of two objects used in the activity	Knows the functional use of four objects used in the activity	
	Problem-solving	Unable to recognise and solve a problem	Recognises a problem but cannot solve it	Solves a problem after repeated instruction	Solves a problem without assistance	
	Cause and effect	No cause-effect demonstrated	Unintentional demonstration of cause-effect with a subsequent awareness of own actions	Demonstrates cause-effect only 50% of the time	Understands the concept of cause-effect	

Communication	Understands instructions	Unable to understand any form of instruction	Able to follow a 1-step instruction	Able to follow a 2-step instruction	Able to follow a 3-step verbal instruction	
	Choice-making	No attempt to make a choice	Recognises that there are different objects to choose from	Able to make a choice with a lot of encouragement	Able to make a choice independently	
	Requests	No attempt to request anything during the session	Requests in a non-verbal manner (by using gestures)	Requests in non-verbal manner + vocalisation	Requests in verbally	
	Level of prompting (cues) needed	Needs constant verbal, gestural, physical and visual prompt	Needs verbal and/or gestural prompt	Needs physical and/or visual prompt	Needs no prompt	
	Uses gestures as means of communication	Uses no gestures	Uses some natural gestures but it is inconsistent	Uses a little variety of gestures	Uses gestures consistently and accurately	
	Vocalisation	No vocalisation	Little variety of vocalisation but it does not correspond to the activity	Uses a variety of vocalisations with inconsistent correlation to the activity	Uses a variety of vocalisations with consistent correlation to the activity	
	Verbalisation	Uses no recognisable words during the session	Uses single words during the session appropriate to the activity	Uses short sentences during the session appropriate to the activity	Uses complex sentences during the session appropriate to the activity	
Socio-Emotional	Turn-taking	Does not initiate turn-taking	Takes turns infrequently	Takes turns frequently	Initiates give and take turns with partner	
	Indicates enjoyment	Shows no emotional response	Smiles at actions of objects and people, uncontrolled	Laughs at events that deviate sharply from everyday experiences	Shows varied emotional responses appropriate to the situation	
	Interpersonal contact	Not aware of other people in the close surroundings	Fleeting awareness of other people in the close surroundings, makes eye contact	Greets partner, but does not maintain the interest	Interested in other people and responds to them in a appropriate manner	
	Participation	No volition to participate	Participates in destructive manner	Participates in explorative manner	Participates in constructive manner	

DAILY MULTIPLE MEASUREMENT INSTRUMENT
APPENDIX E

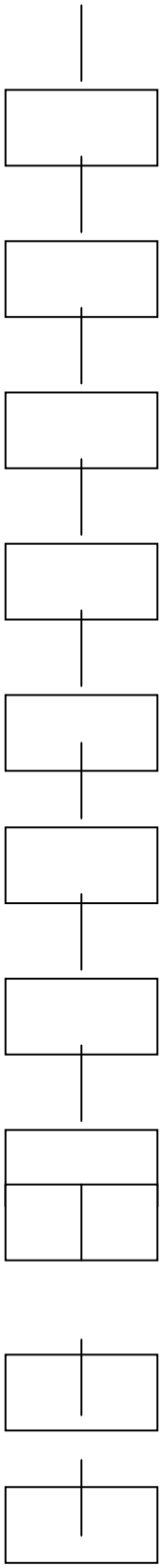
Instructions:

1. Watch the whole video clip of the child interacting with the play activity.
2. Select the most advanced developmental behaviour according to complexity.
3. Then rate *that* behaviour according to the frequency it occurred during the session.
4. If a 1 is scored on the complexity, a 1 should always be scored on frequency.

Subject no: _____
Week: _____
Activity no: _____
2nd : _____

Item	Complexity	Frequency			
		Rarely	Sometimes	Mostly	Always
1. Visual tracking	1 No tracking				
	2 Tracks an object in mid-range, but looses it				
	3 Tracks an object in mid-range, without loss	1	2	3	4
	4 Tracks an object without loss				
2. Imitation of movement	1 No imitation of movements				
	2 Tries to imitates simple movements, but is unsuccessful				
	3 Imitates simple movements	1	2	3	4
	4 Imitates complex movements successfully				
3. Gross co-ordination	1 Swiping movements				
	2 Clumsy, awkward, unsuccessful movements				
	3 Inconsistent accuracy of movement	1	2	3	4
	4 Smooth, accurate movements				
4. Manipulation of tools and material	1 Unable to manipulate small tools and material				
	2 Poor, inaccurate movements				
	3 Slow and inconsistent accuracy	1	2	3	4
	4 Smooth, accurate movements				
5. Attention	1 No focus to attend				
	2 Attend for 1-2 minutes				
	3 Attend for 3-5 minutes	1	2	3	4
	4 Attend for 6-10 minutes				
6. Object permanence	1 No object permanence				
	2 Search for object it moved out of visual field				
	3 Search for partially hidden object	1	2	3	4
	4 Search for fully hidden object				
7. Object recognition	1 No identification of objects				
	2 Identifies some objects				
	3 Identifies most objects	1	2	3	4
	4 Identifies all objects				
8. Matching objects and pictures	1 No attempt to match objects and pictures				
	2 Make some attempt to match but is unsuccessful				
	3 Match some objects with pictures	1	2	3	4
	4 Match all objects with pictures				
9. Functional object use	1 No functional object use				
	2 Functional use of some objects				
	3 Functional use of most objects	1	2	3	4
	4 Functional use of all objects				
10. Problem-solving	1 Does not solve a problem				
	2 Pausing, indicating awareness of problem				
	3 Solves a simple problem	1	2	3	4
	4 Solves a complex problem				

Item	Complexity	Frequency			
		Rarely	Sometimes	Mostly	Always
11. Cause and effect	1 No cause and effect demonstrated				
	2 Coincidental causing, but no recognition of the effect				
	3 Show cause and effect behaviour after demonstration	1	2	3	4
	4 Shows cause and effect without demonstration				
12. Follow verbal instructions	1 Follows no instructions				
	2 Follows 1-step instructions				
	3 Follows 2-step instructions	1	2	3	4
	4 Follows 3-step instructions				
13. Choice-making	1 No choice making				
	2 Choose between 2 objects				
	3 Choose between 3 objects	1	2	3	4
	4 Choose between 4 objects				
14. Request	1 No request indicated				
	2 Request through visual focus				
	3 Request through gestures	1	2	3	4
	4 Request through verbalisation				
15. Use of gestures as means of communication	1 No gestures used				
	2 Uses natural gestures, but some may be still inaccurate				
	3 Uses natural gestures accurately	1	2	3	4
	4 Uses simple gestures accurately				
16. Vocalisation	1 No vocalisations				
	2 Single, monotone vocalisations				
	3 Intonational differences in vocalisations	1	2	3	4
	4 Variety of vocalisations				
17. Clarity of speech	1 No spoken words				
	2 Jargon				
	3 Speech, but articulation is mostly unintelligible	1	2	3	4
	4 Intelligible speech, may have some articulation errors				
18. Complex sentence use	1 No sentence use				
	2 Uses 1-word sentences				
	3 Uses 2-word sentences	1	2	3	4
	4 Uses complex sentences				
19. Turn-taking	1 No non-verbal turn taking				
	2 Recognises partner and responds to "give" and "take" concepts	1	2	3	4
	3 Initiate turn taking				
	4 Maintains appropriate turn taking				
20. Enjoyment	1 No enjoyment indicated				
	2 Basic and short duration				
	3 Variety of basic reactions, short duration	1	2	3	4
	4 Variety of emotional reactions, intensive, long duration				
21. Participation	1 No participation				
	2 Participates in destructive manner				
	3 Participates in explorative trial and error manner	1	2	3	4
	4 Participates mostly in constructive manner				



	Subject V1		1
	Week V2		2
Cognitive development			
Categories of play	V3		3
Attention span	V4		4 – 7
Early object use	V5		8
Symbolic and representational skills	V6		9
Imitation skills	V7		10
Problem-solving skills	V8		11
Discrimination/Classification skills	V9		12
One-to-one correspondence	V10		13
Sequencing abilities	V11		14
Drawing skills	V12		15
Social-emotional development			
Mastery motivation	V13		16
Development of humor	V14		17
Social relations with peers	V15		18
Communication and language dev			
Development of intentionality	V16		19
Expressions of communicative inten			
Attention seeking	V17		20
Request objects	V18		21
Request action	V19		22
Request information	V20		23
Protest	V21		24
Comment on objects	V22		25
Comment on action	V23		26
Greeting	V24		27
Answering	V25		28
Acknowledgement of other's speech	V26		29
Other	V27		30
Discourse skills	V28		31
Articulation	V29		32
Semantic knowledge levels reflected in words	V30		33
Language comprehension	V31		34
Development of speech and sound production	V32		35
Sensorimotor development			
Mobility in standing	V33		36
Jumping	V34		37
Development of climbing	V35		38
Development of ball skills	V36		39
Development of grasp	V37		40
Development of manipulation prehension	V38		41

APPENDIX G

Tel: (012) 3297800
Fax: (012) 3297800

INFORMED CONSENT

1 ACKNOWLEDGEMENT THAT STUDY INVOLVES RESEARCH

I, _____ willingly agree to let my child participate in this study which has been explained to me. The information obtained from this research will form part of a doctoral thesis.

2 PURPOSE OF THE STUDY

It is a well known fact that children learn through play. Children with impairments have limited opportunities and access to play, which influences the development of communication skills. The purpose to this study is to establish the nature of changes that occur in communication-related skills during exposure to specific play activities. In order to identify and describe these changes children have to be exposed to specifically developed play activities and carefully observed and documented.

3 DESCRIPTION OF PROCEDURES

a) The play package consists of five (5) activities and the researcher will engage each child individually with each of these five activities.
b) Each activity will be presented to the child for 15 minutes.
c) Each session will be video-taped for the researcher to closely evaluate communication-related skills after the session, as it is too difficult for one person to do the activity and to assess at the same time.
d) This information will be analysed to establish validity of the different activities in the play package.

PROGRAMME

It is very important that the children attend school every day for the month of November as absenteeism could influence the child's progress as well as the results of the research. Parents are urgently requested to assist in this regard.

4 SELECTION OF CHILDREN

Your child was specially selected for this research by the occupational therapist of the school, Mrs Elna Griesel, due to your child's co-operative manner. It would be a pleasure to incorporate your child in this group.

5 RISK OR DISCOMFORT

There is no risk or discomfort for the children who participate in this research. Children love to play and they experience the sessions as fun where they can participate in activities while experiencing success.

6 CONTACT PERSON

Kitty Uys, Department of Occupational Therapy, University of Pretoria.
Tel no: (W) (012) 354 6040
(Cell) 082 4932014

7 BENEFITS OF THE STUDY

The contribution of this research is of academic, clinical and educational value. There is a lack of manpower in the rehabilitation services and professional rehabilitation personnel will need to be trained in more transdisciplinary approaches, where the different professions need to collaborate more. This includes the training of caregivers as members of the intervention teams, by providing them with knowledge and skills in the application of play packages, which may be effectively used to stimulate development in children with special needs. It is intended to make this play package available to caregivers in developing communities, where rehabilitation services are not readily available, to be used with children with special needs.

8 VOLUNTARY PARTICIPATION

Participation is voluntary and no compensation will be given. You are free to withdraw your consent for your child to participate in this research at any time without prejudice to your child's subsequent care.

9 CONFIDENTIALITY

All records of this study will be kept confidential and when data will be explained in the thesis, no names of the children will be used. Video material that protects your child's identity may be used for training purposes as well as at professional congresses.

Address: _____

Telephone number: (H) _____ (W) _____

I have read all of the above, and willingly give my consent to participate in this programme. Upon signing this form, I will receive a copy.

PARENT

NAME: _____

SIGNATURE: _____ DATE: _____

RESEARCHER

NAME: _____

SIGNATURE: _____ DATE: _____

WITNESS NO 1

NAME: _____

SIGNATURE: _____ DATE: _____

WITNESS NO 2

NAME: _____

SIGNATURE: _____ DATE: _____