

Child Development and Developmental Delay

CHAPTER 34

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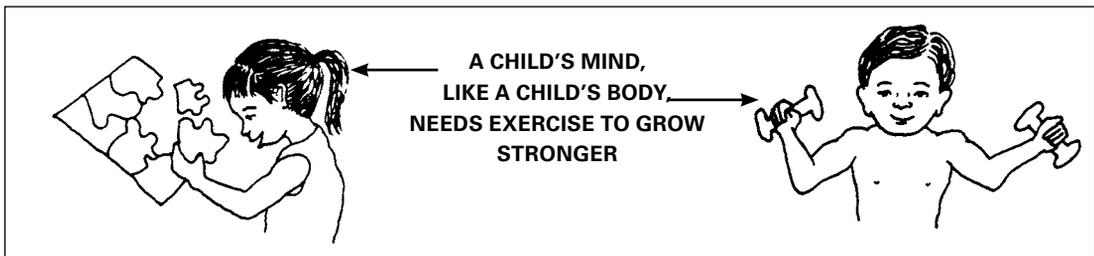
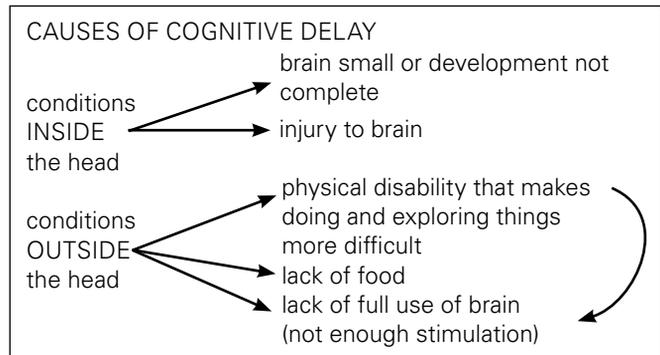
In Chapter 32 we discussed some of the primary causes of cognitive delay. Mostly we looked at disabilities that come from inside a child's head—conditions where the brain has been injured, is too small, or for other reasons is not able to work as quickly as other children's brains.

In this chapter we see how a child's early development also depends on factors outside the child's head—on the opportunities a child has to use his senses, mind, and body to learn about the things and people around him. We look at the stages or steps of typical child development, and at ways we can help or stimulate a child to learn and do things more quickly. Our concern is not only to help children who have cognitive delay, but those whose development is delayed for whatever reason.

Usually children whose minds take longer to develop also take longer in learning to use their bodies. They begin later than other children to lift their heads, roll, sit, use their hands, stand, walk, and do other things. They are physically delayed because of their delayed mental development.

In other children the opposite is true: certain physical disabilities make it more challenging for them to develop the use of their minds.

For example, a child who is born with hearing loss and does not have cognitive delay will have difficulty understanding what people say, and in learning to speak. As a result, she is often left out of exchange of ideas and information. Because language is so important for the full development of the mind, in some ways she may seem delayed for her age. However, if the child is taught to communicate her wishes and thoughts through sign language at the age when other children learn to speak, the development of her mind will often not be delayed (see Chapter 31).



On the next page is a true story that shows how a severe physical disability can lead to delayed mental development, and how a family found ways to help their child develop more fully.

ENRIQUE'S STORY

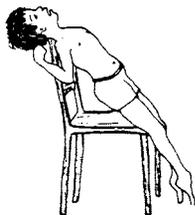
Enrique had a difficult birth. He was born blue and limp. He did not start breathing for about 3 minutes. As a result, he developed severe cerebral palsy. His body became stiff and made strange movements that he could not control. His head often twisted to one side and he had trouble swallowing.



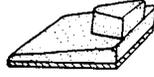
To protect him, his mother kept him on the floor in a corner.

Enrique's mother loved him and cared for him as best she could. But as the years went by, he did not gain any control of his body. His mother kept him on the floor in a corner so that he would not hurt himself. He spent most of his young life lying on his back, legs stiffly crossed like scissors, head pressed back, looking up at the roof and the mud brick walls. By age 3 he had learned to speak a few words, but with great difficulty. By age 6 he spoke only a little more. He cried a lot, had temper tantrums, and did not control his bowels or bladder. In many ways he remained like a baby. A visiting nurse called him 'retarded'. Still lying alone in the corner, Enrique grew increasingly withdrawn. At age seven—if his mother understood him correctly—he asked her for a gun to kill himself.

Soon after this, Enrique's mother and his older sister took him to a team of village rehabilitation workers in a neighboring village. The workers realized that he would probably never have much control of his hands and legs. But he desperately needed to communicate more with other people and see what was going on around him, to be included in the life of his family and village. But how could he do this lying on his back? His mother had tried many times to sit him in a chair, but his body would stiffen and he would fall off or cry.



The village workers helped Enrique's family make a chair for him, with a cushion and hip strap to help him sit in a good position. They taught his mother and sister how to help him sit in a way that would keep his body from stiffening so much.



special cushion
(see p. 609)

Later, they added wheels to the chair.



With his new chair, Enrique was able to sit and watch everything that was going on around him. He was excited and began to take more interest in things. He could also sit at the table and eat with the family (although his mother still had to feed him). Everyone talked to him and soon he began to talk more. Although his words were difficult to understand, he tried very hard. In time, he spoke a little more clearly. He also began to tell people when he had to use his toilet. He discovered he was no longer a baby, and did not want to be treated as one.



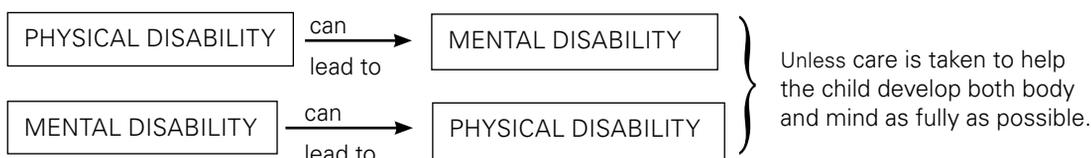
Every day Enrique's sister and brother went to school. One day Enrique begged to go too, and they pushed him there in his chair. Soon he went every day, and began to learn to read. Enrique had begun to develop more control of his head. The village workers helped the teacher make a book holder attached to Enrique's chair, and a head band with a wire arm so that he could turn the pages.



A happier and fuller life had begun for Enrique.

Enrique's story shows how development of the body, mind, and senses all influence each other. Enrique took longer to develop mentally because his mind did not have the stimulation (activity, exercise, and excitement) it needed to grow strong. He had almost no control of his body movements. However, his eyes and ears were good. When at last his body was placed so he could see and experience more of the world around him, and relate more to other people, his mind developed quickly. With a little help and imagination, he learned to do many things that he and his family never dreamed he could.

We saw how Enrique's physical disability delayed his mental development. Similarly, a child with cognitive delay is often delayed in physical development. Development of body and mind are closely joined. After all, the mind directs the body, yet depends on the body's 5 senses (sight, hearing, touch, taste, and smell) for its knowledge of people and things. Therefore:



Each child, of course, has their own specific needs. Parents and rehabilitation workers can try to figure out and meet these needs. (An example is Enrique's need for special positioning so that he can see and do things better.)

But all children have the same basic needs. They need love, enough good food, and shelter. And they need the chance to explore their own bodies and the world about them as fully as they can.

Early Stimulation

"Stimulation" means giving a child a variety of opportunities to experience, explore, and play with things around her. It involves body movement and the use of all the senses—especially seeing, hearing, and touching.

Early stimulation is necessary for the healthy growth of every child's body and mind. For children without disabilities, stimulation often comes naturally and easily, through interaction with other people and things. But it is often more difficult for children with disabilities to experience and explore the world around them. For their minds and bodies to develop as early and fully as possible, they will need extra care and activities that provide easy and enjoyable ways to learn.

The younger the child is when a "stimulation program" begins, the less cognitive delay he will have when he is older.



Enrique's sister helps position him in his new chair.

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CHILD DEVELOPMENT

In order to know how well a child is developing and in which areas she may need help, we can compare her development with that of other children.

An understanding of child development can guide us in planning activities that will help children with disabilities progress.

Every child develops in 3 main areas: **physical** (body), **mental** (mind), and **social** (communication and relating to other people). In each area, she develops skills step by step in a certain order. During the first year of life, a baby usually gains more and more control of her body.



A child's abilities develop in a particular order, one upon the other, like building blocks.

Body control develops progressively from the head down:



Before she can begin to walk, a baby needs to go through a series of developmental stages, or levels. First, she has to be able to hold up her head and see what is around her. This encourages her to use her arms and hands so that she can then learn to lift herself to sit. While sitting, she begins to reach, lean, and twist. All this helps her to develop balance and to shift her weight from side to side—skills she will soon need for standing and walking. Usually, the stimulation that a child needs to advance through these stages comes from ordinary day-to-day interaction with people and things.

However, a child who has a disability may need help to keep progressing. Notice that in the above example, the child's ability to see makes her want to reach for things and explore. Seeing stimulates her to try to learn and do more. If a child cannot see, this basic part of early stimulation is lacking. To prevent her from falling behind, we must look for other ways to encourage her to learn and do things. We can do this through touch and sound, adapting the type of stimulation we use to the child's particular stage of development. For example, if a baby cannot see:

From the first we should hold her and speak to her a lot. Help her to reach out to touch and feel different things.



Later, we can encourage her to lift and turn her head, and then reach out, toward different sounds.



When she begins to sit, again we can help her to recognize different sounds and reach toward them.



When she begins to walk we can help her find her way with guide poles, and in other ways.



For more ways to help a child who cannot see well, see Chapter 30.

It is important for parents to realize that a child develops control and use of her body in a certain order:

HEAD CONTROL → TRUNK CONTROL (SITTING AND BALANCE) → STANDING AND WALKING

This is true even for an older child. Often parents of an older child who is delayed will try to help her learn more advanced skills (which other children her age are learning) before she is ready. This often leads to disappointment and frustration both for parents and child.



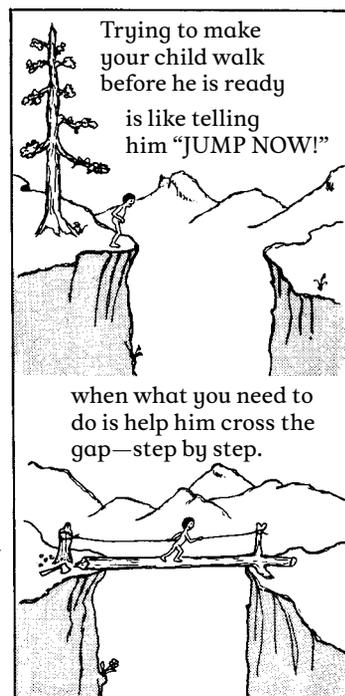
For example, Nina is a 3-year-old girl with cerebral palsy. She still has trouble holding up her head or sitting without falling over.

However, her mother is sure she is "almost ready to walk." Several times each day she holds Nina in a standing position and moves her forward, so that her feet take stiff, jerky steps on tiptoe. Her mother does not

know that this stepping is an early reflex usually only seen in young babies (see p. 311). It means that in some ways Nina's development is still at the level of a 1-month to 3-month-old baby. She is not yet ready to walk. Making her take steps will only keep active the early reflex which she needs to lose in order to learn to really walk.



stepping reflex
in a 1-month-old
baby



CP

We must help Nina's mother realize that Nina first needs help with other important developmental steps before she will be ready to learn to walk. To help her develop further, her mother will need to:

1. Figure out what developmental age or stage the child is at.
2. Decide what are the next steps forward, so that the child can build new skills on the ones she has now, in the same order in which a child usually develops.

To do these things, Nina's mother should first observe the child carefully. In each area of development, she notes the different things Nina can do, the things she cannot do yet, and the things she is just beginning or trying to do, but still has trouble with. Next, her mother compares what Nina can and cannot do with what other children Nina's age can do. She can then decide at what level her child is at in each area of development, and what are the next steps to work toward.

THE CHART ON TYPICAL CHILD DEVELOPMENT

The chart on the next 2 pages shows some of the steps or "milestones" of typical child development. You can use it to figure out where a child is in her development, and to plan the next steps that she needs help with.

CAUTION: The development chart shows the average ages when children begin to do things. But the ages at which children usually develop different skills vary greatly. Just because a child has not developed certain skills by the ages shown does not mean he is backward or has a problem. Be sure to look at the whole child.

RECORD SHEET 6
(page 1)

Name: _____

Birth date: _____

Date: _____

EVALUATION OF A CHILD'S LEVEL OF PHYSICAL DEVELOPMENT

Note: Although on these guides physical and mental skills are separated, the two are often closely interrelated.

These charts show roughly the average age that a child usually develops different skills. But there is great variation, with some children earlier, some later.

Physical Development	Average age skills begin	3 months	6 months	9 months	1 year	2 years	3 years	5 years	What to do if a child is behind
Head and trunk control	lifts head part-way up	holds head up briefly	holds up head and shoulders	turns head and shifts weight	holds head up well when lifted	moves and holds head easily in all directions			Activities to improve head and trunk control (see p. 302).
Rolling		holds up head and shoulders	rolls belly to back	rolls over and over easily in play	rolls over and over easily in play	twists and moves easily while sitting			Activities to develop rolling and twisting (see p. 304).
Sitting	sits only with full support	sits with some support	sits with hand support	begins to sit without support	sits well without support	walks	can walk on tiptoe and on heels		Work on sitting. Special seating, if needed (p. 308).
Crawling and walking		begins to creep	scoots or crawls	pulls to standing	takes steps	grasps with thumb and forefinger	walks easily backward	hops on one foot	Activities to improve balance (see p. 306).
Arm and hand control	grips finger put into hand	begins to reach towards objects	reaches and grasps with whole hand	passes object from one hand to other	pulls to standing	looks at small things/pictures	throws and catches ball		Eye-hand activities. Use toys and games to develop hand and finger control (see p. 305).
Seeing	follows close object with eyes	enjoys bright colors/shapes	recognizes different faces	eyes focus on far object	eyes focus on far object	looks at small things/pictures	Sees small shapes clearly at 6 meters (see p. 453 for test).		Have eyes checked (see p. 452). For difficulty with vision, see Chapter 30.
Hearing	moves or cries at a loud noise	responds to mother's voice	enjoys rhythmic music	understands simple words	understands simple words	hears clearly and understands most simple language			Have hearing checked. For difficulty with hearing, see Chapter 31.

EVALUATION OF A CHILD'S LEVEL OF MENTAL AND SOCIAL DEVELOPMENT

Name: _____
 Birth date: _____
 Date: _____

Mental Development	Average age skills begin	3 months	6 months	9 months	1 year	2 years	3 years	5 years	What to do if a child is behind
Communication and language	cries when wet or hungry	coos when comfortable	uses simple sounds	uses certain sounds for different things	begins to use simple single words	begins to use words together	uses simple sentences		Speak and sing often to child. If needed, develop alternatives to speech (p. 313).
Social behavior	smiles when hungry or uncomfortable	smiles when smiled at	smiles when smiled at	begins to understand and respond to "NO!"	begins to do simple things when asked	likes to be praised after completing simple tasks	interacts with both adults and children		Consider trying behavioral approach to social behavior (see p. 349).
Self-care	suckles breast	takes everything to mouth	chews solid food	begins to feed self	drinks alone from glass	takes off simple clothes	toilet trained		Encourage child to help self if possible. Use behavioral approach to learning (see p. 350).
Attention and interest	smiles when smiled at	brief interest in toys and sounds	develops strong attachments to caretakers		takes longer interest in toys and activities	sorts different objects	builds playthings with several pieces		Early stimulation activities (see Chapter 35). Provide toys and 'fun' objects.
Play	grasps things placed in hand	plays with own body	begins to enjoy first social games (peek-a-boo)		imitates and copies people	begins to play with other children	plays independently with children and toys		Guided play, lots of stimulation and interaction with other children.
Intelligence and learning	cries when hungry or uncomfortable	recognizes mother	recognizes several people	looks for toys that fall out of sight	copies simple actions	points to things when asked	follows simple instructions		Early stimulation (p. 316). Lots of toys, talk, and step-by-step training.

RECORD SHEET 6 (page 2)

Put a circle around the level of development that the child is now at in each area.
 Put a square around the skill to the right of the one you circled, and focus training on that skill.
 If the child has reached an age and has not mastered the corresponding level of skill, special training may be needed.

How to use the Child Development Chart

The chart on pages 292 and 293 can be used to:

1. find and record a child's developmental level.
2. plan the next developmental steps or activities with which we can help the child, and
3. record in which areas the child is progressing, and how much.

CP Let us suppose that a village health worker wants to help Nina's mother figure out what she needs to do next to help her 3-year-old daughter develop early abilities. Together they look at the chart.

First they put a circle around each of the things that Nina can do. Since she still has trouble holding her head up, they put a circle here.

Nina needs help to roll from her belly to her back, so they put a circle that goes part way around "rolls belly to back."

Physical Development	Average age skills begin	3 months	6 months	9 months	1 year	2 years	3 years	5 years
Head and trunk control	lifts head part way up	holds head up briefly	holds up head and shoulders	holds up head shoulders	turns head one side shifts weight	holds head up well when lifted	moves and holds head easily in all directions	
Rolling		rolls belly to back	rolls back to belly	rolls over and over easily to play				
Sitting		sits with full support	sits with some support	sits with hand support	sits without support	sits well without support	twists and moves easily while sitting	
Crawling and walking		begins to creep	scouts or crawls	pulls to standing	takes steps	walks	runs	can walk on tripe and on heels
Arm and hand control	grips finger put into hand	begins to reach towards objects	reaches and grasps with whole hand	passes object from one hand	grasps with thumb and forefinger	easily moves fingers back and forth from nose to moving object	throws and catches ball	
Seeing	follows close object with eyes	enjoys bright colors/shapes	recognizes different faces	eyes focus on far object	looks at small things/pictures	sees small shapes clearly at 6 meters (see p. 254 for test)		
Hearing	moves or cries at a loud noise	turns head to sounds	responds to mother's voice	enjoys rhythmic music	understands simple words	hears clearly and understands most simple language		

After they circle Nina's level in each area of development, they can see that in her general body movements and control, Nina is still at the level of a 2- to 4-month-old baby. Her hand control is at about 6 months. Her seeing and hearing seem about typical for her age, and her mental development is at about 2 years.

Then they put a square around the next developmental step after each circle. The squares show which developmental steps Nina now needs help with. Because Nina's difficulty with head control is holding her back in other areas, they decide to work mostly with this (see p. 302), and also to help her with rolling and twisting her body (see p. 304). Perhaps they can begin to work with sitting and creeping, but probably she will not progress much with these until she gets better head control. The use of her hands is still somewhat behind for her age, but this may partly be because of her difficulty with head control. So they decide to have her sit for short periods each day in a special seat. With her head supported in a good position, they can give her games and things to do to help her develop better use of her hands. But, they are careful not to keep her head supported for long, because that will not help her to learn to support it herself. Also, they are careful to provide only the least amount of support needed to give her better control of other parts of her body. They will reduce the support as her control improves.



Because Nina's eyes, ears, mind, and speech seem to be developing fairly well, these will probably be what she learns to use best as she grows older. Therefore, her parents decide to do all they can to help her improve these skills. They use pictures, songs, stories, play, and a lot of stimulation to help her develop her mind. But they try to remember that she is still only 3 years old. They must not push her too much. Sometimes it is better to help her gain skill and confidence in only 1 or 2 areas at a time.

To use the Child Development Chart for recording a child's progress, every month or two you can add new circles to the chart. Use a different colored ink each time, and mark the date in the same color. Then add new squares to determine the developmental steps that are next in line (see p. 49).

THE NEED FOR EARLY STIMULATION

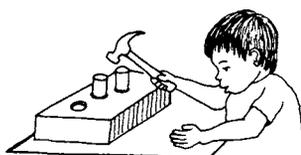
The parents and family are the key to the development and early learning of any child. Children with developmental delay need the same stimulation (talking to them, music, games, adventure, and love) that any child needs. But they need more. They need more help and repeated activities to use their minds and their bodies.

When a child is delayed, he needs stimulation and activities to help develop all areas of his body and mind.

AREAS OF A CHILD'S DEVELOPMENT THAT CAN BE HELPED THROUGH EARLY STIMULATION AND LEARNING ACTIVITIES

1. **Movement, body control, strength, and balance:**

these will help the child move about, do things, play, and work.



2. **Use of the hands:**

increased hand control, and coordination of the hands with what the child sees, allows the child to develop many skills.

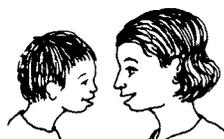
3. **The senses:** especially seeing, hearing and feeling. These will help the child recognize and respond to her world.



4. **Communication:** listening, understanding what is said, and learning to speak, or to communicate in whatever way is possible.

5. **Interaction with other people:**

smiling, playing, behaving appropriately, and learning to get along with others.



6. **Basic activities for daily living:** eating, drinking, dressing, and control of bowel and bladder (peeing and shitting). These self-care skills help the child become more independent.

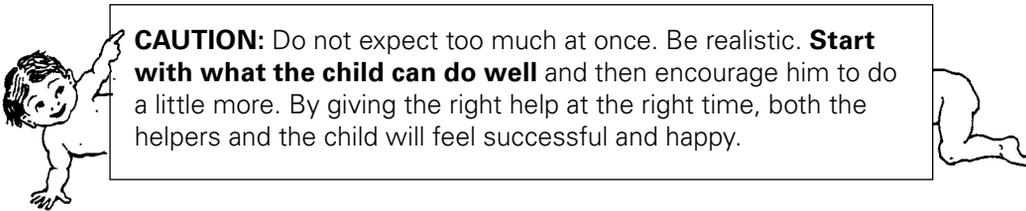
7. **Observing, thinking, and doing:** to learn how to make thoughtful decisions, and how things work.



The goals of an early stimulation program are to help the child become as able, self-sufficient, happy, and kind as possible.

STEPS IN DESIGNING A PROGRAM OF SPECIAL LEARNING AND EARLY STIMULATION

- First:** Observe the child closely to evaluate what he can and cannot do in each developmental area.
- Second:** Notice what things he is just beginning to do or still has difficulty with.
- Third:** Decide what new skill to teach or action to encourage that will help the child build on the skills he already has.
- Fourth:** Divide each new skill into small steps: activities the child can learn in a day or two, and then go on to the next step.



CAUTION: Do not expect too much at once. Be realistic. **Start with what the child can do well** and then encourage him to do a little more. By giving the right help at the right time, both the helpers and the child will feel successful and happy.

SUGGESTIONS FOR DOING LEARNING ACTIVITIES WITH ANY CHILD (DELAYED OR NOT)

Be patient and observant. Children do not learn all the time; sometimes they need to rest. When they are rested, they will begin to progress again. Observe the child closely. Try to understand how she thinks, what she knows, and how she uses her new skills. You will then learn how to help her practice and improve those skills. When talking with the child, give her time to answer your questions. Take turns speaking. Remember that practice and repetition are important.

Be orderly and consistent. Plan special activities to progress naturally from one skill to the next. Try to play with the child at about the same time each day, and to put his toys, tools, clothes, and so on, in the same place. Stay with one style of teaching, loving, and behavior development (if it works!). Respond in a similar way each time to the child's actions and needs. This will help him to understand and to feel more confident and secure.

Use variety. While repetition is important, so is variety! Change the activities a little every day, so that the child and her helpers do not get bored. Do things in different ways, and in various places inside and outside of the house. Take the child to the market, fields, and the river. Give her a lot of things to do.

Be expressive. Use your face and your tone of voice to show your feelings and thoughts. Speak clearly and simply (but do not use "baby talk"). Praise and encourage the child often.

Have a good time! Look for ways to turn all activities into **games** that both the child and you enjoy.

Be practical. Whenever possible choose skills and activities that will help the child become more independent and be able to do more, for himself and for others. To help prepare the child for greater independence, do not overprotect him.

Be confident. All children will respond in some way to care, attention, and love. With your help, a child who is delayed can become more able and independent.

A special learning program, if well-planned and carefully done, can help a delayed child progress much more than she would without help.

GENERAL GUIDELINES FOR HELPING A CHILD'S DEVELOPMENT

How a family member or rehabilitation worker relates to a child when trying to teach her new skills can make a big difference in her whole development. It can affect how fast or well she learns the new skill. More importantly, it can influence the child's confidence, behavior, and readiness to learn.

There are a few simple methods that you can use to help a child gain a better **understanding of her own body, prepare her for learning language, and help her relate to other persons in a friendly, cooperative way.**

These guidelines are especially helpful when doing early learning activities with children who are developmentally delayed:

1. **Praise the child a lot.** Praise him, hug him lovingly, or give him a little prize when he does something well (or when he makes a good effort).



Explanation

Praising success works much better (and is much kinder) than scolding or punishing failure. When the child tries to do something and fails, it is best to ignore it or simply say something like: "Too bad, better luck next time."

2. **Talk a lot to the child.** Using clear, simple words, say everything that you do with him.



Explanation

A child listens to and begins to learn language long before he begins to speak. Although it may seem as though he does not understand or respond, still talk to him a lot. If you think he does not hear, talk to him but also use sign language. Make sure he looks at you as you speak (see pp. 313 to 314).

3. When you are helping a child learn a new skill, **guide her movements with your hands.**

For example, to teach a child to bring her hands to her mouth (or to eat by herself) you can,

Help her put her finger in a food she enjoys,

and then to put her finger in her mouth.

After the child has learned to do this, let her do it by herself.

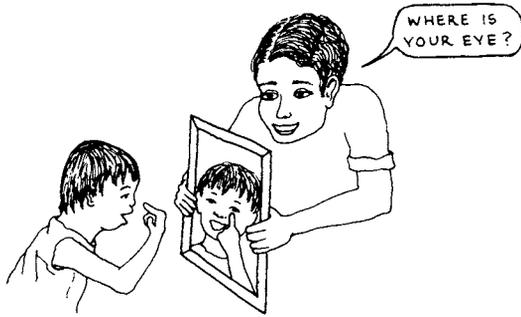


Explanation

It usually works better to gently guide the child than to tell her how to do something. If she tries to do something but has difficulty, guiding her hands so that she is successful will make her a lot more eager to learn the skill than if you say "NO—do it like this!"

4. **Use a mirror** to help the child learn about his body and to use his hands.

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Explanation

The mirror helps the child see and recognize parts of his body. It is especially useful for children who have difficulty relating to different parts of their body or knowing where they are. (This can happen in some forms of cognitive delay, cerebral palsy, spinal cord injury, and spina bifida.)

5. **Use imitation (copying).** To teach a new action or skill, do something first and encourage the child to copy you. Turn it into a game.



Explanation

Many children with cognitive delay (especially those with Down syndrome) love to copy or imitate the actions of others. This is a good way to teach many things, from physical activities to sounds and words.

6. **Encourage the child to reach out or go for what he wants.**

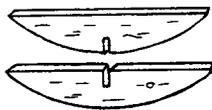


Explanation

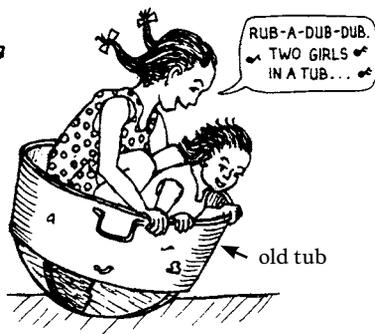
Even at early stages of development, it is a mistake to always place in his hands what a child wants. Instead, use the child's desire as a chance to have him use his developing body skills and language skills to get what he wants—by reaching, twisting, rising, creeping, or whatever he is learning to do.

When it gets too easy, put obstacles in the way—but do not make them too difficult.

7. **Make learning fun.** Always look for ways to turn learning activities into play.



2 pieces of wood notched to fit together crosswise



Explanation

Children learn best and cooperate more when they enjoy and are excited by what they are doing.

Keep doing an activity as long as it is fun for the child. As soon as it stops being fun, stop the activity for a while, or change it in some way, to put new adventure and excitement into it.

8. **Let the child do as much as she can for herself. Help her only as much as is needed.**

For example, if the child has trouble putting on clothes because of spasticity, help by bending her shoulders and back forward, but let her pull on her clothes herself.



9. **The child often learns best when no teacher is present.**



10. **Get older children to demonstrate new equipment.**



REMEMBER: Good teaching will make a difference. How well you teach, play, and express affection is more important than how much time you spend at it.

Explanation

This is the “Golden Rule of Rehabilitation.” When a child has trouble doing something or seems clumsy at it, parents often want to “help” by doing it for her. However, for the child’s development, it will help her more to let her do it herself—providing encouragement but assisting only in ways that let her do more for herself.

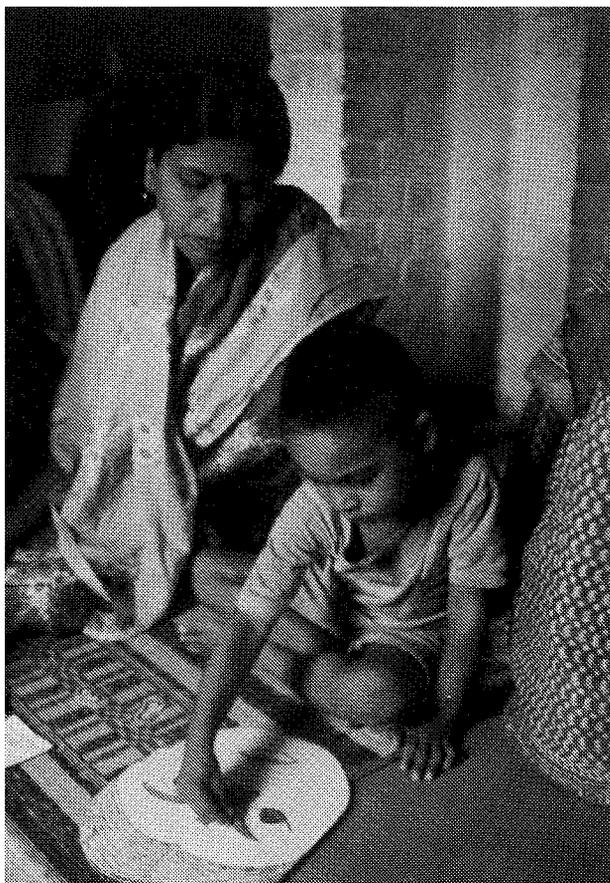
CP

Explanation

Children often try hardest when they want something a lot, and no one is there to help. Teaching is important, but so is giving the child a chance to explore, test his own limits, and do things for and by himself.

Explanation

Some children may refuse to try, or will be afraid of new playthings, aids, or special seating. If another child tries it first, and shows he likes it, the child will often want to try it also.



A child with cognitive delay learns the parts of a face by placing cut-out cardboard parts on a paper face. (Samadhan, Delhi, India)



Puppets are used to teach children with cognitive delay in Samadhan (India). Each puppet wears clothes of one color and has the name of that color. The children learn the puppets' names—and so begin to learn the colors.