Born to Learn

from the Center for Mind, Brain, and Learning

Babies are born to learn. They come into the world with capacities that surprise us - one of their most surprising abilities is their tendency to learn quickly. Parents sometimes call their babies "little sponges." So what are they learning? Scientists around the world are investigating children's understanding of language (English, Japanese, Swedish) and objects (blocks, tools, hidden things). Scientists in Dr. Meltzoff's laboratory at the Center for Mind, Brain and Learning are investigating what babies learn about people.

One aspect of children's understanding of people is their ability to imitate; children learn by watching what other people do (link to: Copycats). By the second year of life they do more than this. They begin to understand what other people think, want, and intend. In short, they begin to understand what is going on inside other people's heads. This is a vitally important life skill.

Dr. Meltzoff has made a special investigation of 18-month-olds' ability to understand the intentions of others. In one study, he had the adult show toddlers how to use a series of toys. The trick was that the adult didn't show the child the complete act. Instead, the adult "accidentally" slipped or made a mistake, so he failed to complete the action. For example, the adult would try to press a button but he would overshoot or undershoot the target and missed the button repeatedly. Children were then given the toy. The study showed that children as young as 18 months knew exactly what the adult "meant to do." They could read the adults intentions. They showed this by completing the act the adult intended instead of slavishly imitating exactly what they saw. This intention-reading skill plays itself out in everyday life. Normally developing infants "get the gist" of what we are doing. Even though we may not act perfectly, toddlers respond to what we mean to do, rather than what we literally do. They are taking their first baby-steps toward reading our minds.

Predicting Language Skills With Simple Listening Tests at 6 Months of Age

from the Center for Mind, Brain, and Learning

Before infants utter their first words, they are doing sophisticated computations on the language they hear. Studies show that the ability of infants to analyze the building blocks of language - the consonants and vowels that make up words - is critical for language learning. In Dr. Patricia Kuhl's laboratory at the Center for Mind, Brain, and Learning, scientists measure the ability of very young infants to distinguish English sounds, like "r" and "l" which delineate "rake" and "lake."

Huei-Mei Liu and Dr. Feng-Ming Tsao have recently made a discovery about infants' early speech analysis abilities. They found that the ease with which infants distinguish vowels at the very young age of 6 months can predict their later language skills. The study followed a group of infants as they grew from six months to 24 months. Tsao and Liu discovered that infants who had excellent sound discrimination skills at six months were also highly successful at more complex language functions, such as sentence comprehension and vocabulary production, at two years of age. Infants who were less skilled early on were ones more likely to lag in their language skills when evaluated later. This work opens up the possibility that intervention may be enhanced by the ability to identify children with language problems even before they can speak.

Teaching Old Brains New Tricks

from the Center for Mind, Brain, and Learning

Scientific studies and everyday experience both show that learning a foreign language after puberty can be extremely difficult. Why is this the case? Are there ways to revitalize the adult brain so that learning a second language could be as efficient as picking up the first language in childhood? Scientists working with
Dr. Patricia Kuhl at the Center for Mind, Brain and Learning, including doctoral student Yang Zhang and Visiting Professor Dr. Toshiaki Imada, have been using magnetoencephalography (MEG), a powerful brain imaging system, to investigate these issues.

They have compared the brain reactions of Japanese and American speakers to spoken English to examine the effects of language experience on the brain. When people listen to their native language, the "language centers" located in the left hemisphere of the brain become activated. But when listening to a foreign language, listeners show a very different pattern of brain activity. The new studies show, for example, that when Japanese speakers hear English sounds like "ra" and "la," a contrast that does not exist in the Japanese language, their brain activity is located in the right hemisphere, just as it is when someone hears two meaningless tones. The new work also shows that this right-brain phenomenon is reversed when Japanese speakers are given a special kind of training.

In the study, Zhang used features of "motherese," the exaggerated speech parents use when addressing infants, to train Japanese speakers to detect the new sounds. After training, not only were Japanese speakers significantly better at correctly identifying "ra" and "la," but the sound difference that had previously been detected by the right hemisphere had crossed over to the left hemisphere. The MEG brain-imaging equipment, which tracks rapid changes in brain activity, revealed in incredible detail how the Japanese brain was altered by training. The research illustrates that given the right experience, one is never too old to learn.

**Born To Feel**

**Learn what a sad face means.**

It's a beautiful summer day. Dad and his 10-week-old baby Ryan are relaxing on a blanket outside. Dad leans over Ryan and smiles and coos happily as his baby looks up at him. Baby smiles and dad is thrilled. Suddenly, the family dog bounds into this perfect world, disturbing the moment and knocking over a glass of lemonade. Not pleased, dad immediately turns to the dog, shouts at him, and shoos him away. As he turns back to his baby, an expression of anger is still on his face. Ryan looks at his dad's face and begins to cry. Dad immediately senses his baby's reaction. He scoops him up, cuddles him and soothes away his tears.
What happened there? Was Ryan's smile a real expression of contentment or was he simply mirroring his dad's facial expression? Was Ryan's response to his dad's anger a real emotional reaction? What do babies feel and when do they start to feel it?

Emotions start early.

Babies are emotional beings right from birth. From several different experiments, we know that babies respond to emotional expressions, like a big smile on your face, within the first few weeks of life. Many researchers now think that within three months babies can react to and express five "basic" emotions (Lewis, 2000).

- Joy
- Interest
- Anger
- Sadness
- Disgust

(Note: the emotion of fear is also one of the basic emotions all children have, which begins to show up at around 7 to 8 months.)

Most think babies are born with these emotional abilities to help them form strong bonds with their caregivers, thus helping them survive. That really is quite amazing, considering it wasn't long ago an infant's smile was considered to be relatively meaningless. Now we know better. Although their emotions are not fully developed, infants are already beginning to show hints of an emotional life.

When you can't ask.

Infants can't talk about their emotions—at least not yet! So to find out about young children's emotions, researchers created experiments that looked at how babies responded to the emotional expressions they could see and hear. Would they react at all? Would they simply copy the emotions they saw? In one experiment, researchers wanted to know if 10-week-old babies would respond to their mothers' expressions of happiness, sadness and anger with emotional expressions of their own. When the babies were calm, their mothers would show them an emotion, like happiness, and the babies' responses were recorded on videotape (Haviland & Lelwica, 1987).

How did the babies respond?

The babies responded differently to each of the three expressions their mothers presented, showing that they could tell the difference between happiness, sadness, and anger. Also, the babies' reactions changed as their mothers repeated their expressions, showing that they weren't simply copying the emotions that they saw.

For instance, the babies first reflected back their mothers' joyful expressions, but as the mothers repeated this expression, the babies' reactions changed to interest and excitement. On the other hand, the mothers' angry expression caused some infants such
distress they could not complete the experiment. Other babies responded with expressions of anger, and then stopped reacting at all. And, finally, when the mothers exhibited a sad expression, some babies responded by sucking their tongues and lips, something they had not done at any other time.

From these results, researchers concluded that babies are able to perceive and respond to a range of emotional expressions (Haviland & Lelwica, 1987). Babies only 10 weeks old are doing more than just copying the emotions they see.

Another experiment focused on how often babies showed four different expressions (interest, joy, sadness and anger). They found that more than half of the time, babies as young as 2 ½ months responded to their mother with their own expression of interest. Babies showed sadness the least often (Izard, Fantauzzo, Castle, Haynes, Rayias & Putnam, 1995). These results fit well with what we know—babies are wonderfully inquisitive and it's their job to learn how to interact with the people around them. These researchers also believe that babies' expressions of interest and joy could have a positive effect on their mothers. This last observation comes as no surprise to those parents who have spent any time playing peek-a-boo with their babies.

Helpful Parenting Tips

First, despite these fascinating experiments, we can only assume that babies' expressions reflect their inner emotions or feelings. After all, we can't ask them. But even if we don't know for sure what babies are feeling, we know that they are watching and responding to our emotions. So spend lots of time interacting with your baby and enjoying these precious responses.

- Smile, laugh, and play facial games.
- Be aware that your angry or sad face will affect how your baby reacts.
- Take your baby's emotional expressions seriously and respond to them.
- Watch and learn how your baby's emotions develop over time.

You and your baby are discovering more about each other everyday and it's an exciting adventure. Most of all, have fun… it will show on your face.

References:


and anger expressions in young infants. Developmental Psychology, 26(5), 745-751.


**Information for Talaris Research Institute:**
The information on this Spotlight is the property of Talaris Research Institute and protected under U.S. copyright and other laws. If it is your desire to use or reproduce the material contained herein, please request permission by emailing Cindi Pendergraft, Director of Marketing at cp@talaris.org | P.O. Box 45040 Seattle, WA 98145 | 206-529-6898, ext. 303 | fax 206-529-6899 | Talaris Research Institute © 2002.

### 5 Steps of Emotion Coaching

From the very first time children wrinkle their brows, smile at a parent’s face, or test the limits of their lungs with a hearty cry, it’s obvious that emotions are a main part of being human. Feelings come naturally to all of us, and learning to deal with them is one of life’s most important lessons.

We spend a lot of time teaching our children simple things such as tying their shoes, yet we often expect them to learn how to handle complex feelings like anger, sadness and frustration without much help. Research studies make it clear that children do better when parents nurture, support and encourage their emotional development.

That’s the idea behind Emotion Coaching—a five-step approach to parenting that can help forge stronger family bonds while preparing children to cope with the powerful world of emotions they face everyday.

Research by Dr. John Gottman shows that children who can understand and cope with emotions do better in school, form stronger relationships, have fewer behavioral problems and generally lead happier, healthier and less stressful lives. Gottman’s Emotion Coaching
approach shows parents and caregivers the way.

5 Steps of Emotion Coaching

Step 1 - Emotional Awareness

Getting in tune with your child's emotions.

It's not difficult to figure out how a child is feeling when she breaks into tears after her sister breaks her favorite toy. She's angry and sad.

Likewise, it's a pretty safe bet that a child who is wearing a big smile and humming along to his favorite song in the back seat of the car is feeling happy and content.

Such insights come naturally to most parents. But sometimes a child's emotions are less obvious, and like all of us, children can experience several emotions at the same time. To discover what a child is feeling at such times takes a little more work—like looking at a child's body language, listening for hints in a child's tone of voice, and searching for clues in a child's face. It also means increasing our awareness of our own emotions along with those of a child,
Whether these emotions are easy to spot or not, they shouldn't be taken for
granted. Becoming aware of a child's emotions—especially before they
escalate out of control—can benefit everyone.

It may sound simple, but being aware of what your child is feeling—and why
she is feeling it—can open up ways that will allow you to play a meaningful
role in helping your child grow up happy, healthy and well-adjusted.

The heart and mind connection.

More and more, scientists are learning how children's emotional
development can affect both their physical and mental health. Studies show
that children who are 'emotionally intelligent' are more likely to be self-
confident, do better in school, have fewer behavioral problems, have better overall health, get
along better with friends and others, and weather their parents' marital conflict better. Strong
emotional health, in turn, makes them better prepared to deal with difficult events later in life.

So how does your ability to recognize and understand your child's emotions help? Awareness
of these emotions creates the chance for you to connect with a child on an emotional level, to
share all the ups and downs of life, and to guide and nurture him on the road to healthy
emotional development.

On the trail of emotions.

It isn't always so easy to figure out why your young one is feeling sad, puzzled, giddy, joyful,
surprised, embarrassed, fearful or proud. Sometimes it can take a good bit of detective work to
unravel what a child has on her mind.

And that can take some digging.

It might not be apparent, but a boy who becomes sullen and angry with a younger sister may
be feeling insecure with his place in the family and jealous of the attention she is getting. The
reason a girl suddenly wants to stop going to her childcare center might have nothing to do with
childcare at all. Instead she may be feeling rejected by a playmate at the center who found a
new friend.

The hints to children's feelings aren't always written on their faces. Helping children develop
the language to talk about emotions is an important part of the process. For example, they
need to learn the words for emotions like disappointment, hurt feelings, sadness, and worry.
But even before kids learn to express themselves, tuned-in adults can often decode children's
messages by listening closely and trying to view the world from their point of view.

Looking for clues in make-believe.

It's not uncommon for young ones—especially those under seven—to express their own fears
and uncertainties while playing. A young girl who is happily cuddling her doll, Molly, might
suddenly say 'Molly doesn't like it when mommy and daddy yell at each other.' Take note when
this happens. Children often use characters and scenes during make-believe to talk about
difficult or confusing feelings.

Nightmares can also offer a glimpse into the child's emotional world, just as they do the adult's.
Even at a young age, our subconscious mind finds ways of dealing with emotions that our
conscious mind avoids. Comfort your child after a bad dream, explain the difference between
dreams and reality, but keep an ear open for the real-life issues behind the nightmare.
To know your child, know yourself.

Although being aware of your child's negative emotions is important, don't forget to enjoy the positive moments as well. Sharing a child's joy and laughter is one of the best moments of parenthood.

Being aware of a child's emotions does take a lot of work. Recognizing and understanding emotions is a skill we can all develop, but putting it into practice in our daily lives can be more difficult for some people.

So how do you improve this skill? If you want to really understand what is going on with your child, Gottman suggests that you start by understanding your own emotional makeup. How do you handle your emotions—especially negative emotions like anger or sadness? How do your emotions change throughout the day? How many 'emotion words' like frustration, worry, joy, and tension do you use in a day? How do you handle feeling different emotions at the same time?

Gottman's research found that parents who were in touch with their own emotions were better able to relate to their children's feelings. Like any good guide, parents need to know the landscape if they want to lead their children through it.

The importance of awareness.

Awareness of a child's emotions is the foundation for a healthy relationship. Parents and caregivers who are tuned into a child's feelings are in a much better position to offer support and understanding during the tough times of anger, sadness and frustration, and they are in a better position to celebrate together the wonderful moments of joy, happiness and laughter. The sense of empathy parents and caregivers develop will be instrumental as they guide their child's overall emotional development.

Helpful Parenting Tips

- Try seeing the world from your child's view when he is struggling with an emotion.
- Listen to your child during playtime for clues to what is making her anxious, scared, happy or proud.
- Build awareness of your own emotions—the better you understand your own feelings, the better you will understand your child's feelings.
- When appropriate, share your emotions with your child.
- Help your child build a vocabulary for expressing his different feelings—and help him discover where these feelings come from.
- Understand that children can experience different emotions at the same time.
- Remember that children are learning about emotions by watching you handle yours.

Step 2 - Recognizing Emotions As An Opportunity For Intimacy And Teaching
Building connections through giggles and tears.

As parents and caregivers, we experience the full range of our children's emotions nearly every day, and sometimes in ways that can stir up feelings in us, too. Who doesn't share a child's pride and happiness as he shows mom or dad a new drawing? On the other hand, it's hard not to get annoyed with a child who won't stop howling in the grocery store because you passed right by his favorite cookies.

These emotional moments are the times kids naturally turn to adults and caregivers. The response they receive can have a dramatic effect on the way they learn to deal with feelings. Whether happy or sad, children's emotions offer parents two very important things: an opportunity to build a deeper and more trusting relationship and a time to teach them how to deal with the wonderful world of human feelings.

A chance to teach.

Seeing emotional outbursts as an opportunity for bonding and teaching, rather than just another problem that needs solving, is a change in attitude that lies at the heart of building a child's 'emotional intelligence.'

Researcher John Gottman has found that children whose parents respond to their emotions with empathy and patience:

- are more self-confident
- do better in school
- have fewer behavioral problems
- get along better with friends and others
- have fewer infectious illnesses
• can weather marital conflict better

These benefits also appear to have long-lasting effects. Children who develop strong emotional health may be better prepared to deal with difficult events and relationships as teenagers and adults. Emotionally intelligent children are better able to adapt to the different social situations they experience as they get older.

**Attitude is important.**

Viewing emotional moments as opportunities, rather than burdens, is not an attitude that comes naturally to everyone. We are all wired to deal with emotions differently. Some parents are more likely to dismiss their child's feelings as silly and unimportant. If a kid is feeling hurt or sad, they might say, 'That's life, and the sooner you realize that the better.' Others see negative emotions like sadness or anger as dangerous or harmful, and try to help their children get rid of them as quickly as possible by replacing them with more positive, happy feelings.

For others, displays of emotions just make them uncomfortable. They may try to avoid or ignore their children's feelings, resorting to bribery or threats to control their children's emotional behavior.

Both of those approaches can actually do more harm than good, according to Gottman. Emotions—even negative ones—are not something to be dismissed or ignored; they are a normal part of being a happy, healthy, and fully-functioning person.

**Learning how emotions work.**

For young children, emotions are new and sometimes overwhelming. Kids don't have the benefit of an adult's life experience to understand that the pain they feel when a pet dies will get better with time. Parents and caregivers who support and comfort their child during hard times become that much closer with their child. By offering guidance and experience, they teach the child to deal with feelings that will emerge time and time again in their lives.

Opportunities to teach a child aren't just limited to heavy emotional moments. As all adults know, feelings can escalate. What starts out as mild anxiety about getting the first haircut can grow into a screaming fit once a child is in the barber's chair. By noticing and talking about feelings before they grow into a crisis, parents and caregivers not only defuse issues when they are small, they teach children an important problem-solving strategy.

Whether it's an intense emotional outburst or a quiet, less obvious emotional experience, how a parent acts in the emotional moment is critical. It's important to show patience, interest, and a willingness to join the child in the feeling before working together to find solutions. Parents who take the time to listen, understand, and teach during emotional moments do themselves and their children a lot of good. Not only are their children more likely to see mom and dad as important friends and allies during tough times, they are learning how to deal with emotions in a healthy, effective way.

**Helpful Parenting Tips**

• Be aware of your children's emotions throughout the day, so that you can recognize when they are upset, sad, or happy.

• Don't dismiss or avoid your children's emotions, but acknowledge and explore them in a patient, caring way.
• Share the feelings with your children, and encourage them to talk about their emotions.
• Provide some "emotional first aid" by letting your children know that:
  o They are acceptable to you—no matter what feelings appear
  o They are not alone—you are there to share the feelings
  o You understand their feelings
  o Their feelings make sense
  o It's OK to trust their emotional instincts
• Help them think of solutions to the situation—and let them suggest their own ideas.

Step 3 - Listening Empathetically And Validating The Child's Feelings

Listening with your heart and your head.
Imagine this situation: you've brought your little one to his first neighborhood birthday party, and while all the other kids are running around in the backyard laughing and shouting, he is standing by a table full of presents in tears.

You know what's wrong—he is envious that those beautifully wrapped presents aren't for him. But no matter how many times you tell him not to be upset and to go out and have fun with the others, he won't stop crying.

He's a smart boy, you think, so why won't he listen to reason?
Explanations and logic might work for adults, but children look to parents and caregivers for something else when they feel swept away by an emotion—comfort and understanding.
Children are looking for empathy.
This is when a parent's ears and heart really come in handy.
Listening with empathy and validating a child's feelings—whether happy or sad—are two of the most important steps to take to help children learn to deal successfully with the wonderful world of emotions.
Not only will listening with empathy help comfort the child, but research suggests (Gottman, Katz, & Hooven, 1997) it will also help improve her ability to soothe herself during times of trouble, which could have powerful and long-lasting benefits.

What's a parent to do?
Imagine the situation at the birthday party again, but instead of telling your child how you think he should be feeling—in this case, happy—you simply ask him how he is really feeling. Then listen carefully. If he can't tell you, you can help him identify these feelings: "I bet you wish you were getting some presents. You are feeling envious and that makes you feel bad."

This can be a very reassuring time for a child. After all, he didn't try to be envious about the presents, he just is. Knowing that an adult listens and understands what he is feeling can be just the kind of comfort he needs.
Not only that, but now you have given your child a word to describe the emotion, 'envy,' which itself can have a calming effect.

Emotions matter.
A child's ability to delight in the happy times, and recover quickly from the bad ones, is a key
part of good emotional health, according to Dr. John Gottman.

In his research on the emotional environment of families, Gottman found that children who have emotion-coaching parents:

- are more self-confident
- do better in school
- have fewer behavioral problems
- get along better with friends and others
- have fewer infectious illnesses
- can weather parents' conflict better

Strong emotional health, in turn, makes them better prepared to deal with difficult events later in life.

Obviously, not every emotional moment with your child is as easy to understand as an envious tantrum. Children's emotions are varied and complex. Often it is the low-level emotions, such as when a child just feels blue, that offer the biggest challenge to parents.

**Listening and watching.**

Getting at what is in your child's heart starts with listening to him carefully. By listening to your child's words, you show that his feelings matter. But listening might mean using more than just your ears. Children express emotions in lots of ways, and parents can learn to 'read' these emotions by watching for certain cues. These cues might include facial expressions (like a furrowed brow), body language (hands in fists, or a body posture that seems down), the words they speak and they way they say them (tone of voice, certain words emphasized), or other ways children reveal their attitudes about things.

Children can be reluctant to talk about their emotions, and it can take a patient and insightful adult to get to the root of the matter. If a child who loved swimming suddenly hates going to the pool, something is up. But ask her why and she is likely to just shrug her shoulders and say "nothing".

That's when adults need to press on, drawing on their own knowledge of their child's life. "Something is bothering you, you used to love the pool. Did something happen with your friends?"

The difficult part for most comes when the child starts opening up. It's hard sometimes not to view your child's problems as small or even silly.

If you find out that she had a fight with her friends at the pool, you might be tempted to tell her to just "forget about it."

That's not as easy as it sounds for a child. The one thing adults need to keep in mind is that children don't have the years of experience dealing with emotions that they do. To them, emotions are often new and strange. Situations that seem minor to a grownup can appear monumental to a child experiencing them for the first time.

**Becoming a friend and ally.**

Here's where parents can really become coaches, according to Gottman. The most effective way to help the child understand what she is feeling is to help put her feelings into words with
simple statements, such as "it hurts when your friends don't want to play with you."

Reflecting the child's feelings back is not only comforting, it can make a child feel that they have a friend and an ally. It also puts the parent in a better position to help their child find a solution to the problems she is facing.

And that's the key to listening with empathy and validating your child's feelings. Parents who are tuned in to their child's emotions can turn life's problems into opportunities to teach. By helping children discover their emotions, parents not only offer comfort, they give their kids skills that will serve them well for the rest of their lives.

**Helpful Parenting Tips**

- Don't dismiss a child's emotions as silly or inconsequential—they are obviously very important to the child.
- Listen to your child in a way that lets her know you are paying attention and taking her seriously.
- Don't judge or criticize emotions, but find a way to show the child that you understand what he is feeling.
- Remember that words of understanding should always come before words of advice.

**Step 4 - Labeling Emotions**

Tell me how you feel.

Anger...envy...sadness...frustration. These are feelings that come naturally to children. But how do you help them learn to cope with such emotions in a way that promotes both mental and physical health? The answer can be as simple as giving feelings a name.

Children often lack the basic vocabulary necessary to make sense of the emotions they feel, whether it is jealousy, hurt, fear or worry. Caregivers who tell a child with tears streaming down her cheek, "You are feeling sad now, aren't you?" or a child in the midst of a foot-stomping tantrum, "I can see you are feeling angry," perform an important task. Those who help teach their children to name their emotions give them a valuable, lifelong skill.

Putting a name to the emotion not only helps children make sense of what they are feeling. Research studies suggest that it also helps calm their nervous systems and helps them recover faster from upsetting situations.

A key to emotional health.

Labeling emotions is an important step in Emotion Coaching. Research indicates (Gottman, & DeClaire, 1997) that children raised with an "Emotion Coaching" style that encourages healthy emotional development:

- are more self-confident
• do better in school
• have fewer behavioral problems
• get along better with friends and others
• have fewer infectious illnesses
• can weather their parents' conflict better

Strong emotional health, in turn, may make them better prepared to deal with difficult events later in life. One of the fundamental parts of healthy emotional development for children is to learn how to self-soothe during times of distress. This doesn't mean the children feel less angry, scared or frustrated. It's healthy to experience these powerful feelings. These children are just better able to process their feelings, bounce back from emotional events, and refocus on other activities. And when children can bounce back from emotional experiences, they are more able to pay attention to important tasks like maintaining friendships or completing schoolwork.

Soothing the child.

So how does something as simple as naming emotions help? Science provides us with emerging answers and intriguing questions.

Studies from various laboratories show that the act of naming an emotion has a quieting effect on the nervous system, which may in turn help children to recover faster from emotional stress. Exactly why this happens remains unclear, but some scientists believe it has to do with the brain's structure and how emotions are processed. In the brain, there are certain areas primarily responsible for processing emotions, and other areas primarily responsible for handling logical thinking and language. What's important here are the connections between these areas, and neuroscientists are studying these connections very closely.

Verbalizing an emotion engages the language area in the left side of the brain, which is also an area involved in logic and other higher-level types of thinking. Dr. Gottman believes that naming an emotion stimulates the nerve cells in this area, which may activate connections between this 'logic' area and areas of emotion processing. Activating these connections may help a child to think about the emotion in a different way, leading to a calming effect.

Helpful Parenting Tips

Labeling emotions seems like a simple approach, but sometimes it is not as easy as it sounds. First, caregivers need to be aware of what their children are feeling, so that they can help find the best word to describe these feelings. That can be tricky. Like adults, children can experience mixed emotions. A child with a new baby sister on the way may feel both excited for the new arrival and anxious about the way life at home will change. Exploring the full range of emotions will reassure a child that it is normal to experience conflicting feelings.

Parents and caregivers can help children develop a rich and accurate vocabulary for their emotions. To do this, parents and caregivers can:

• Start identifying emotions together early—you can begin even before the child can talk. One way is to use a game that Dr. Gottman calls 'The Guys,' where a parent draws a
have sadness, happiness, surprise, or fear. These 'guys' then talk about their day, and why they feel a certain way. After hearing from each 'guy,' you can ask your child to grab the finger that is the most like the way they feel (this can start as early as 9 months or so).

- Use puppets to show different emotions and then talk about what these emotions are called, and when people feel them.
- Refrain from telling children what they ought to feel—try to identify the emotions they are feeling.
- Model identifying your own emotions—children learn by watching and copying what adults do.

Other benefits.
There is another powerful reason to help children find the right words for their emotional experiences—it's a way of showing empathy. For some caregivers, a child's emotional outburst can be a time of intense frustration and annoyance. But for others, it provides a perfect opportunity to both teach and grow closer to their child. Labeling an emotion not only gives children a word for what they are feeling, it shows that they are understood, and that is something all of us find comforting.

Step 5 - Setting Limits While Helping the Child Problem-Solve

Solving problems together.

Kids act out their emotions in a lot of different ways. They giggle when they are happy. They smile when they are proud. And they mope when they are blue.

Sometimes, though, they do things that cross the line. One may hit his brother because he is angry, bite a friend because she is jealous, or break toys because they are frustrated.

For children, especially young ones, learning acceptable ways of expressing emotions are some of the most important lessons in life. The challenge for parents is to accept and value their children's emotions as they set limits on inappropriate behavior. The next step is to help children learn to successfully puzzle their way through problems, both big and small, which are a normal part of growing up.

Setting limits is the first step in an entire problem solving strategy, according to Dr. John Gottman. Once you have made it clear what's OK and what's not OK—and why—you should help your children identify, evaluate, and choose effective solutions to their problems. As you set boundaries and teach children positive ways of behaving, you are teaching your children the values of your family and culture.

Feelings vs. behavior.

Children's behavior will sometimes cross the line. What happens next can have a big effect on their emotional development.

Gottman suggests that adults need to make a clear distinction at such times: the child's feelings aren't the problem, their misbehavior is. After all, kids can't control how they feel about something. Neither can adults, for that matter. But we can learn to control how we act on those feelings, and that is what we should teach our children to understand. We need to
communicate to them that all feelings are acceptable, but not all behavior is acceptable. For example, a child may be angry at his brother—but that doesn't mean he can hit him. The angry feelings are understandable, but hitting his brother is not OK.

Parents and caregivers can use a child's inappropriate outburst as an opportunity for teaching by trying the following approach:

- Help the child understand what emotion(s) he or she is feeling
- Name the emotion(s)
- Explain that his or her actions were wrong and won’t be tolerated
- Help him or her to find a better solution.

For example, a father might say “Your sister took your crayons without asking and that made you mad. I would be angry too. But it is not okay for you to rip up her coloring book. Now, can you think of a different thing to do?”

How does this help? Setting limits and problem solving in this way supports your children’s overall emotional development in several ways. First, your child’s feelings are valued as you show that they matter to you. You also can provide (and model) empathy by showing that you’ve had those feelings too. Through setting limits and teaching problem solving strategies, you are giving them the skills and strategies they need to cope successfully with the big and wonderful world of human feelings.

Lifelong benefits.

The rewards to this approach can last a lifetime. Gottman’s research (Gottman, Katz, & Hooven, 1997) has found that children who are raised with an “emotion coaching” parenting style:

- do better in school
- are more self-confident
- have fewer behavioral problems
- get along better with friends and others
- have fewer infectious illnesses
- can weather their parents' conflict better

Strong emotional health, in turn, makes them better prepared to deal with difficult events later in life.

Setting limits and finding solutions.

Setting limits for children is our job as adults. There are simply some things that are not options—like refusing to buckle up before driving in the car, running out into traffic, or hitting another person. Children need to learn that these limits are firm even when emotions run high. When children feel a strong emotion (like fear), and their behavior is just fine, setting limits isn’t needed. But letting children know you understand their feelings, and then finding a way to work through the emotion together, are the next important steps. Helping kids learn the best way to solve problems can take some practice.

What it boils down to is:
• setting goals—what do you want to do?
• thinking about ideas to reach these goals—how many ideas can you think of that might help solve the problem?
• helping the child pick an acceptable solution—what idea sounds like it will work best?

Setting goals really means asking your children what they would like to accomplish—and giving them plenty of time to think about it. In the example above, it may be as simple as keeping a sister away from the crayons. Other problems might be more difficult. If a pet dies or a friend moves away, the goal may be to help ease the pain of loss.

Creative thinking helps. The real creativity comes in thinking through possible solutions to the problems. This can be somewhat challenging with young children, because they often have a hard time keeping more than one option in mind. Pretending different scenarios can be helpful, perhaps using puppets to show different ways of approaching the problem. The first puppet might ask nicely to use the crayons, or two puppets could talk about how they can share the crayons in the future or agree to take turns.

It’s important to give children plenty of time to come up with solutions. Although it can take a while, it’s important for the child to learn to come up with his or her own ideas about solving problems. And try not to be critical of these ideas—even if they are not quite as good as the idea you had in mind.

After thinking of some possible things to do, the parent or caregiver can help the child pick an acceptable solution to the problem at hand. The child might not always pick the best one, but that’s not necessarily a bad thing. Children often learn best from their own mistakes, and it can sometimes be more effective to let a child try a reasonable solution that fails first before finding one that works.

Helping a child learn how to cope successfully with a problem is one of the most rewarding moments for a parent or caregiver. Giving children the skills to deal with the world around them is what parents and caregivers are supposed to do. Kids should be given the freedom to experience all emotions to their fullest, but they also need to understand the difference between appropriate and inappropriate behavior. With this combination of valuing emotions while setting limits on behavior, parents can help children learn to find solutions to the challenges they will face as they grow into adults.

Helpful Parenting Tips

• Discipline misbehaving children for what they do, not for how they feel
• When children misbehave, use it as a time to teach by helping them understand their emotion, give that feeling a name, and explain why their behavior was inappropriate and unacceptable
• When confronting a problem with your children, start by thinking about what they want to accomplish, creating several ideas for doing this, and following their lead in picking a solution
Are You Okay Daddy?

Big feelings from little ones.
Some days, it just doesn't pay to be an adult. Your boss piles on another project. A client rejects your work. As you slowly walk toward the car, you find that the slow leak in the tire has finally become a full-fledged flat.

When you arrive home, there is nothing to do but sit on the couch and turn on the television. Then you notice your toddler standing a few feet away, his brow furrowed with concern. He wobbles toward you, climbs into your lap, and asks, "Daddy, are you okay?" Then he does what he does best—he hugs you. And of course, it works like a charm. You feel better right away.

He's showing you empathy. And he's only two years old.

When you think about it, this is a remarkable and heartwarming achievement. For years, scientists didn't think young children could get beyond their own feelings or needs. Now we know they can. Research shows that during the second year of life, children begin to develop concern for other people, and often try to comfort them (Zahn-Waxler & Radke-Yarrow, 1990).

Empathy in baby steps.

We may all be born with a biological bent toward empathy. Babies start at birth with the ability to respond to the emotions of others, imitating the facial expressions of their caregivers or bursting into tears if they hear another baby cry. By three months, babies respond differently to happy faces than they do to sad faces (Izard et al., 1995), showing that they can tell the difference between them. These responses aren't really empathy yet, but they might be some of the first steps on the path to sharing the feelings of another person.

By the time their first birthdays arrive, big changes are taking place. Let's say two babies are playing. On his way to grab a new toy, one little boy stumbles and falls, hurting his leg. What will the other 1-year-old do? Will he notice? Will he pay attention?

Not only does he notice, he begins to look quite concerned. He might furrow his brow, or maybe stick out his lip. He might be feeling scared himself, wondering if something bad will happen to him. These responses are part of another step in the growth of empathy.

In one research study, one-year-olds were shown videotapes of other children crying. These children began showing signs of distress, usually by sucking on their hands, their shirts, or a toy (Ungerer, Dolby Waters, Barnett, Kelk, & Lewin, 1990). Feeling distress when another person is troubled isn't quite empathy, because feeling bad yourself doesn't necessarily mean that you feel bad for the other person. But seeing another person crying, and then feeling troubled by it, is moving closer to what we call empathy.

From hugs and kisses to band-aids.

Around a child's first birthday, something almost magical happens—a child will begin to show
concern for others. A research study looked at children's responses to emotions as they grew through three age ranges:

- 13-15 months old
- 18-20 months old
- 23-25 months old (Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992)

To do this study, the researchers trained mothers to become researchers themselves. First, they trained the mothers to observe their children's responses to the emotions of others. But the mothers did more than observe—they also would "pretend" to show different emotions to their children-like being sad—and then record how their children reacted. To add to the mothers observations, researchers would visit once a month and observe (and in some cases videotape) the children. Finally, at age two, the mothers and children would go to the laboratory, where the mothers would again pretend to be hurt or sad and the children's responses were recorded.

Here's some of what they found:

- 13-15 months—more than half the children had tried to hug, pat, or touch another person when they were showing distress. Scientists call this "prosocial behavior," which means that they not only responded to the emotion they saw, but they made an attempt to help the other person feel better. This doesn't mean that children this young showed empathy all the time—they didn't—but it shows some early signs of empathy.
- 18-20 months—children showed increasing prosocial behavior, and they responded in a wider variety of ways. Some of these included verbal responses ("are you okay?"), sharing goodies, trying to bring bandages or a blanket, or trying to help in other ways.
- 23-25 months—children showed even more empathy—all but one of the children in the study were showing concern and helping others, even without the encouragement of a parent or caregiver. And while they mainly showed empathy toward their mothers, they clearly showed concern for strangers also.

A word of caution.

Although this research tells a wonderful story, we have to keep something in mind. Even though children as young as 12 months can show empathy, it doesn't mean they will show it every time. Sometimes young children might not show any empathy at all, and at times they might even laugh when they cause another person distress. It's important to remember that they are learning about how emotions work, and they will get better at showing empathy as they grow.

Helpful Parenting Tips

- Show empathy to your children. Young children (like all of us) love to receive empathy. And research shows that parenting with empathy and emotional guidance encourages
healthy emotional growth.

- Provide simple, clear explanations about how other people feel when they are sad or hurt. This is especially important if your child has caused these feelings in another (“that makes Carlos feel bad when you call him names”). When this happens, be firm as you explain how these feelings work.
- Be a good role model for empathy. Children are some of the best copycats around, and they are likely to copy the ways they see you treat people.
- Praise your toddler’s early acts of empathy—they are wonderful signs of learning to care about other people. When your toddler gives up his favorite toy to a younger sibling who’s crying, make sure he knows you appreciate his action.
- Don't expect empathy every time—young children are still learning how emotions work, and how people get along with others. Encourage empathy—but don't expect perfection.

**It’s a Stressful Life!**

Let’s face it, stress is a part of life.

And modern life seems to present us with more of it than ever before. Adults struggle to balance work and family life. Adolescents are stressed about school, relationships, and the future. When our well-being is in some way threatened, our bodies react with what we call a stress response — we feel anxious or stressed out!

Babies are no exception. When their basic needs for food, touch, and loving care are neglected, infants show signs of a stress response.

Researchers are beginning to discover that too much stress, may affect babies’ physical and mental health, not only now but also later in life. During the early months and years of life, some researchers think that babies develop the foundations of their stress response system. The way this system develops may shape how these children react to stressful situations for years to come. Too many stressful situations early on may set a pattern for the way children respond to stress in later years *(Cichetti & Walker, 2001)*.

**You know it when you feel it.**

For such a common word, stress is very complex. What’s stressful to one person may not be stressful to another. Even scientists studying it don’t always agree on what it is. In general, stress is a combination of *events that we find threatening and our responses to those events*.

Much of the leading scientific work on stress so far has been conducted with animals, but these results, though informative, can’t be applied directly to humans. Some research has been done with adults, and even less with children and infants. Even so, scientists are beginning to come up with clues that may help us understand stress in ways that may help improve the health of our children.
To understand how stress affects us, it’s helpful to have an idea of how we respond to threatening situations.

**Fight or flight.**

When we feel threatened — whether by something like speaking in public or facing a mugger — most of the body’s regulatory systems switch on. The brain directs the release of several stress hormones in the body, including one called cortisol. As a result, we might experience some combination of:

- Sweaty palms
- Rapid or shallow breathing
- Pounding heart rate
- Loss of appetite

This is not always a bad thing. In fact, it’s essential to survival. In the short term, high levels of stress hormones not only get us ready to fight or run away, but they may also improve certain types of memory so we’ll recognize similar threats in the future.

We seem to handle short-term episodes of stress well. It’s when stress hormone levels are high for a long time that health problems begin to occur. **Chronic stress and high cortisol levels have been linked to changes in nerve cells and the brain, to problems with memory and learning skills, to the suppression of the immune system, and to behavioral problems** (McEwen, 2000).

**Studying babies, neglect, and stress.**

When it comes to stress and babies, the stakes may be even higher. Studies with rats and monkeys show that neglectful care early in life and lack of parental support when an infant is distressed has a powerful influence on the ways their stress response systems develop. If stressful conditions like these continue during early development, they may set in place a lifelong pattern for higher levels of stress hormones (Gunnar, 2001). Also, these studies show that living in a deprived environment with little personal contact and few things to see or touch can result in higher stress hormone levels. On the other hand, when little ones receive consistent, nurturing attention from caregivers and the opportunity to explore their world, they are more likely to develop healthy stress response systems.

It’s hard to conduct stress experiments on humans — especially children. Subjecting babies to parental neglect and threatening situations and then measuring the levels of their stress hormones is unthinkable. But a study of children adopted from Romanian orphanages found that the longer a child lived under extreme conditions, the higher his or her stress hormones measured, even six and a half years after adoption (Gunnar, Morison, Chisholm & Schuder, 2001).

**Stress early and often?**

In this study, scientists studied three groups of children, all between 6 to 12 years old and living with families in western Canada. One group had been adopted after spending more than eight
months of their early lives in orphanages. Members of the second group had been adopted from the orphanages when they were four months old or younger. And members of the third group were born in Canada and raised in their original families.

Parents took samples of their children’s saliva on three days when nothing unusual was scheduled: once in the morning, again at noon, and finally within a half-hour of bedtime. After analyzing the saliva samples, the scientists found that the children who spent more than eight months in orphanages had significantly higher average levels of cortisol than either the children adopted earlier in life or the Canadian-born children. And the longer the children had lived in orphanages, the higher their average levels of cortisol.

The study was a small one. And more research is needed before scientists can say for sure that living in stressful situations early in life causes children to have higher levels of stress hormones later on, or even that increased hormone levels always lead to health problems. But, the researches noted, their results are consistent with studies in rats that point to a sensitive time in early development when the response to stress may be set.

Many questions about stress and its effect on babies remain unanswered, but one encouraging finding is emerging: how parents and other caregivers treat infants may in fact help lessen the impact of early stress (Gunnar, 2000).

Finally, keep in mind that the brain is more resilient than many of us realize. Chronic stress may have a negative short-term effect on the brain, but there’s evidence that only extreme conditions cause permanent change or damage (McEwen, 2000).

**Helpful Parenting Tips**

You can’t shield your baby from everything that might cause stress. But you can help your baby through stressful times, often just by doing what comes naturally.

- Get to know your baby and try different ways to soothe her. One baby may be soothed by baths, another may like to be cuddled, and some prefer rocking.
- Try to identify stressful situations for your baby.
- Don’t assume that letting a baby deal with stressful situations on his own will make him a “tougher” adult.
- Attend to your baby’s needs by providing a warm and supportive environment and responding to your baby when he needs you.
- There is no such thing as spoiling babies with love and attention.
- Encourage your baby to experience new and exciting things, but be there to provide a calm, supportive presence so that the child experiences success in her exploration of the world.
- Recognize serious traumatic experiences when they happen, and don’t ignore them. There’s some evidence that help given soon after trauma may be effective in preventing brain changes that may be harder to treat later in life (Cicchetti & Walker, 2001).
Mommy, Is This OK?

Little Cameron can walk—and life is suddenly very different. At 11 months old he can travel just about anywhere very quickly. The problem is, he's often quicker than his mother so it's a challenge keeping Cameron safe while he explores his world.

Today Cameron has discovered the pretty red tassels dangling from the edge of the tablecloth. He can't see what's on top of the table, and doesn't realize if he pulls on one of the tassels a vase of flowers will come tumbling down. Across the room, his mother looks with fear and surprise as she realizes her son's plan. As Cameron begins to reach for a tassel he looks back at his mother. The look on his mother's face tells Cameron what he needs to know. He stops reaching for the tassel and moves away from the table. His mother, having vaulted across the room, quickly removes the tablecloth and its enticing tassels.

It's in your face.

Cameron used what researchers call "social referencing" to decide what to do. In other words, he "read" his mother's face, recognized the fearful expression and understood he should not pull the tassel. Cameron, like other babies close to 12 months old, can interpret the emotions he sees on his mother's face. Amazingly, he knows what certain facial expressions and tones of voice mean—from "don't do that" to "it's OK to play with that." By watching adult's facial expressions and listening to their tone of voice, babies as young as 10 months old can use emotional information to decide what to do (Walden & Ogan, 1988).

As adults, we do this all the time to obtain feedback from the world around us, but it's fascinating to learn how early this skill develops. By 12 months, research has shown that babies use visual information from the faces of their caregivers to make sense of situations that are new or unclear (Sorce, Emde, Campos, & Klinnert, 1985). For example, your child might check the expression on your face and the emotion it shows before deciding to pick up a new toy.

Recognizing visual cues.

To see if babies would use social referencing to make decisions, researchers had to create a situation that would be new and unclear to young children. In one experiment, researchers created a "visual cliff”—a glass-covered space that had a "deep end" and seemed unsafe to cross. As they crawled over the glass to get a toy, the babies reached the "deep end" and weren't sure whether they should keep going. At this point, the babies looked at their mothers—and the researchers studied what the babies did (Sorce, Emde, Campos, & Klinnert, 1985).

The mothers and their babies were divided into two groups. Mothers in the first group encouraged their babies to come towards the toy at the other end. As each child approached the visual cliff, the mother smiled, created a happy face and encouraged her baby to cross the table using only her facial expressions.

The second group of mothers also placed the toy at the deep end of the cliff, but as their babies moved closer to the "edge" these mothers showed a fearful face, again without talking or using their hands to add to the communication.

Here's what happened.
When the mothers posed a fearful expression not one of the 17 babies ventured across the deep side. But almost all the babies who saw their mother's happy face - 14 out of 19 - crossed to the deep end. These babies recognized their mother's expression and decided what to do based on what they "read" in their mother's face.

Babies also use social referencing to make decisions about new objects. For instance, one study looked at whether babies would play with certain new toys depending on how their mothers reacted to them. The results were clear--1 year olds were less likely to play with a new toy if their mother reacted negatively to it, and more likely to play with a toy if their mother expressed positive emotions about it (Hornik, Risenhoover & Gunnar, 1987).

Another study looked at when social referencing begins and how it develops over the first 2 years (Walden & Ogan, 1988). They found that babies used social referencing consistently by 10-13 months. Babies from 6-9 months old looked at their mothers in unclear situations, but they seemed more concerned about whether their mother was nearby-and they didn't pay much attention to their emotional expressions. The older babies (14-22 months old) used social referencing at times, but at other times they didn't. The researchers thought that these children could tell when their parents' emotions were real and when they were pretending in the experiment.

Helpful Parenting Tips

So, what does this mean to you and your baby? It means that your 1-year old is watching your face and learning from your expressions all of the time. Your baby is developing the important skill of reading faces and emotions—and you are the first and most important teacher around. With this in mind, you can:

- Have fun interacting face-to-face with your baby. Let your baby see—and learn about—a wide range of emotional expressions.
- Since your baby is "reading" the emotions you express, try to provide clear examples of these emotions. Sometimes our faces may say one thing while our voices or actions say another.
- Your face tells your child a lot about how you feel. Share the things you enjoy with your baby along with communicating what to avoid.
- Use positive emotions to introduce new things to your baby—like new people, new pets, and new toys.

Social referencing is something we do every day, whether we are aware of it or not. It's an important skill that helps us all our lives—and it begins very early in life. You are teaching your child many important things as you go through the day—especially about emotions. Your baby learns by watching you.

Speaking Parentese

Who's a preeety baaabeee?
Think of the last time you met a baby in the company of an adult. Chances are your conversation went something like this:

To baby, in high-pitched voice: "Helloooo, sweeeetie. How's my baaabeee? Ooooh, you're sooo cute. You are sooooo cuuuuute!"

To adult, groaning: "What a day. It took me 15 minutes to merge on to the freeway, then another half-hour to make it to work. I was late to the morning staff meeting — again."

To baby, high-pitched: "Can you give me a smiiile? Give me a big, big smiile!"

It's a phenomenon that even the most serious-minded parents can't explain: see a baby, start cooing.

Researchers call the special way we talk to babies “motherese,” or “parentese”. This sing-song speech, often accompanied by exaggerated facial expressions, seems to be used by nearly everyone who talks to a baby (Snow, 1977; Gopnik, Meltzoff & Kuhl, 1999). We all love to do it – mothers, fathers, grandparents, friends, even preschoolers addressing younger brothers and sisters. And what’s more, babies seem to like it too.

But does parentese serve a purpose beyond making everyone feel warm and happy? Could the elongated vowels, high pitch, exaggerated facial expressions and short, simple sentences of baby talk help infants learn language?

Is that you, Mom?

We know babies like it. Researchers have found that infants prefer to hear parentese to adult conversation (Fernald, 1985; Fernald and Kuhl, 1987).

To test this, scientists sat babies in infant seats and let them choose to hear tapes of adult-to-adult speech or adult-to-infant speech. When babies turned their heads one way, an eight second tape of adult conversation played. When they turned their heads the other way, the babies heard parentese. The researchers found that the babies consistently chose to turn their heads to hear the speech directed toward infants. Amazingly, further testing showed this to be true even when the parentese was in a foreign language.

Babies, quite simply, enjoy hearing the higher-pitched sounds and exaggerated speech patterns of parentese — even when they don’t know what the words mean. Babies not only enjoy the sounds we make when we do it — they also enjoy watching our faces as we talk to them.

In fact, researchers have found that babies as young as five months old are capable of some simple lip-reading (Kuhl & Meltzoff, Science Magazine, 1982; Gopnik, Meltzoff and Kuhl, 1999). In this test, babies were first shown a silent video of a face forming the sounds "ahhh" or "eeeee", and then they heard audiotapes of one of the sounds. The babies knew which face matched which sound. Babies hearing the "ahhh" sound looked at the video with the wide-open
mouth, while those that heard "eeeee" looked at the video with the grinning mouth.

Our universal mother tongue.

While researchers are just beginning to look at the possible benefits of parentese, it's well established that most of us use it, regardless of our culture or native tongue. (Kuhl, P. K., Andruski, J. E., Chistovich, I. A., Chistovich, L. A., Kozhevnikova, E. V., Ryskina, V. L., Stolyarova, E. I., Sundberg, U., & Lacerda, F., 1997). Various studies have documented parentese in speakers of English, German, Russian and Swedish. And one study found it among speakers of Mandarin Chinese, a tonal language in which, unlike English or German, a change in the pitch of a word alters the meaning of that word. (Grieser and Kuhl, 1988).

But no matter the language, parentese seems to share several characteristics and, scientists theorize, has several purposes. (Gopnik, Meltzoff and Kuhl, 1999).

• Parentese is higher-pitched, sometimes as much as an octave higher. Why do we all seem to become sopranos when we talk to babies? It may serve to get their attention. After all, if we're getting high and squeaky, we're probably not addressing anybody with more authority, or even more height, than we have.
• Parentese uses short and simple sentences, often repeated over and over again. We've all said it, probably multiple times, "Who's a sweet baby? Are you a sweet baby? Yes, you're a sweet, sweet baby." Repeating ourselves may help babies figure out words, and simple, repeated sentences may help them with grammar.
• Parentese features well-formed, elongated consonants and vowels. We tend to pronounce words precisely when we talk to babies — pulling out the vowel sounds and clearly voicing consonants — in marked contrast to the hurried way we speak to other adults. A slurred "Sweebabe" becomes a bright "sweetee baaabbee" when addressed to someone who truly fits the description. Hearing the exaggerated sounds of parentese may make it easier for infants to learn the sounds of their own language. Research in this area provides the clearest indication so far that babies use parentese to help solve the mystery of language.

Helpful Parenting Tips

That's easy. Use parentese.

And don't be embarrassed about it for a second. Across the world, adults love baby talk. Babies love baby talk. It's delightful to move in close to a child and communicate in a warm, friendly way that's sure to get a smile. And the slow, higher-pitched, singsong speech may be just what an infant needs to hear to help her figure out how language is put together.

• Talk to your baby as you go through the day. Even if young children don't understand what your worlds mean, they love to hear the sounds of language. And don't be shy about smiling and making goo-goo eyes while you talk!
• Move in close when talking to your child, so that your baby can see your face and your lips move when you talk.
Draw out your vowels and pitch your voice as high as you like. Praise his pretty brown eyes. Tell her she's a sweetie. As if you can have a big smile.

Remember that you're talking to a baby, not a mini-adult.

And before you know it, she'll answer you.

**Look Who's Talking**

Is that babbling and cooing designed just to make us melt? Or is your baby learning language?

The house is quiet. The baby has gone down for her nap. Finally, you've got a chance to catch up on the chores. But what's that you hear over the baby monitor? Is that your little girl talking? She's only eight months old! You always knew she was remarkable.

You hurry to her room and ease the door open. There she is, all right, lying in her crib, happily chattering away. "Ba ba ba ba ba. Ga ga ga ga ga," she burbles, catching sight of you. "Eeeeee!"

All right, so they're not her first words. What are they?

**Repeat after me.**

Think about your own attempts to imitate another language. If you hear a Spanish-speaker say "gracias" you may pick up the rolling "r" sound, but do you know immediately how to make the sound yourself? It takes a bit of practice to get your tongue in the right position. Think of a baby trying to learn how to speak for the first time.

How does an infant learn how to make the sounds he hears — perhaps by cooing and babbling and copying the grown-ups around him.

Scientists Patricia K. Kuhl and Andrew N. Meltzoff think babies' babbling isn't simply random sounds strung together in an unbearably cute fashion. Instead, Kuhl and Meltzoff believe babies are learning how to move their lips, tongues, mouths and jaws to make the sounds they hear you make (Gopnik, Meltzoff and Kuhl, 1999).

Babies have a powerful ability to learn the language (or languages) they hear (Kuhl, Williams, Lacerda, Stevens and Lindblom, 1992), and adults are very well-suited to helping babies learn. The special way we speak to babies - getting up close, drawing out our vowel sounds and pitching our voices high, for example - seems to be just what infants want and need when it comes to sorting out the sounds of speech. (For more on this topic, see our Research Spotlight on Parentese).

They're sounds and they're eeeexxxciting.

By the time an infant is six months old, Patricia Kuhl estimates that the average American baby
has heard hundreds of thousands of examples of the vowel sound "ee," as in "daddy," "mommy" and "baby." Kuhl and her colleagues think that from these thousands of examples, babies develop a type of sound map in their brains that helps them hear the "ee" sound clearly.

In a way, babies create perfect examples of speech sounds in their heads, with a type of target area around each sound. With their sound map for "ee," for example, babies learn to pick out the "ee" distinctly from the other sounds they hear. And sounds close to the "ee" sound may be in the "target area" around the perfect example, and the baby still hears it as an "ee."

These perfect examples of speech sounds, called "prototypes," have a profound effect on how babies hear speech and how they babble. They help "tune" the child's brain for the language around him, so that he can hear the different sounds of speech clearly. Even when adults don't speak clearly, babies seem to compare the mumbled sounds in grown-ups' speech against the prototypes in their brains and figure out what they're saying.

By the time they're six months old, babies who hear the sounds of their culture's language have developed a set of speech sound prototypes they can use as building blocks when they begin to put together their own words, usually sometime around 12 months (Kuhl, Williams, Lacerda, Stevens and Lindblom, 1992).

But first, they'll need some practice making the sounds. By hearing, watching, and copying the adults (and brothers or sisters) around them, babies start babbling.

Be careful what you say.

Babies love to imitate the sounds they hear adults make. This is why babies around the world seem to babble using the sounds of their families' language. In one research study, 3 to 5 month-old babies watched and listened to films of an adult making vowel sounds. With only a total of 15 minutes of exposure (over three days, five minutes at a time), even some of the youngest babies tried to imitate the adult speech, making similar if not perfect copies of the sounds they heard (Kuhl and Meltzoff, 1996).

Even at these very young ages, babies may be developing what Kuhl and Meltzoff call a "mouth-to-sound map," figuring out that different sounds are made by moving their lips, tongues, mouths and jaws in different ways.

And babies aren't just using their listening skills to figure out language. They also seem to use something similar to lip-reading. Scientists have discovered babies would rather look at the face of a person who is saying the vowel sound the babies are hearing than see a face and sound that don't match. (Kuhl and Meltzoff, 1982).

What babies who are learning about speech need, it seems, is someone to talk to. And that someone is you.
There's nothing quite as endearing as a happily babbling baby. Knowing that these sounds may be helping your baby put together the building blocks of speech is an added bonus. But to get to babbling, and from there to meaningful speech, your baby needs a good teacher.

- Talk to your little one early, and talk to him often. Get up close so he can see how your lips move. Babies are wonderful copycats.
- Use "parentese" — draw out your vowels and change the tone of your voice.
- Don't be afraid to repeat yourself — over and over again. Favorite songs, nursery rhymes, and the words to favorite books give children lots of practice hearing the sounds of the language.
- When she babbles, don't be embarrassed to babble right back. Babies learn early to "take turns" with you in making sounds — think of these as early "conversations!"

Above all, enjoy these early conversations with your baby. At first, you may not be able to understand his brand of babble and coo, but the words will come soon enough. In the meantime, get up close, and let your baby see and hear how it’s done.

Peek-a-Boo

How do young children learn?

From birth to age 5, children learn an astonishing amount about how the world works. They learn how to speak and understand a complex language, how objects that disappear from view can still exist, and how people feel about events in their lives. They are, as several researchers point out (Gopnik, Meltzoff, & Kuhl, 1999), among the best learners in the universe.

How do they do it?

Children are explorers. They grab things, examine them, bang them on the floor, and drop them. It’s as if they need to discover the world around them. They will walk or crawl — even if they know they shouldn’t — towards fragile items and off-limits places. When they find a game they enjoy, like peek-a-boo, they want to play it over and over again.

These activities are all part of a larger learning process. This process, called hypothesis testing, is an extremely powerful way young children learn. It’s so powerful, in fact, that the world’s leading scientists use the same methods.

What’s hypothesis testing?

To understand hypothesis testing, we first must realize that it always begins with what children already know. What children already know influences how they thing, how the react to situations, and how the see the world around them. Children learn by building upon, and then reshaping, what they already know about the world.

Based on what they know, children make predictions about what they think will happen. These predictions are called hypothesis. When children make predictions about things and then test their ideas, they are hypothesis testing. Of course, hypotheses can be right or wrong, and
that's why children — just like scientists — need to test them over and over again to make sure they get them right.

Hypothesis testing involves five main steps:

1. Making observations
2. Asking questions
3. Creating hypotheses (what they think will happen based on what they know)
4. Testing hypotheses
5. Evaluating the evidence

Let's look at a common example of hypothesis testing.

"Where's daddy?"
"Peek-a-boo!" (baby giggles)
"Where's daddy?"
"Peek-a-boo!" (baby giggles again)

Sound familiar? Every parent and caregiver around the world knows the joy of playing peek-a-boo. Hiding your faces from a baby, waiting a few precious moments, and then bursting into view with wide eyes, a big smile, and a loud “peek-a-boo!” can be delightfully fun. It's so much fun, you probably don't realize that you are part of an ongoing scientific experiment. This giggling baby is the scientist. Here's the experiment behind this wonderful game of peek-a-boo.

What's the science of peek-a-boo?

Peek-a-boo seems like an obvious game to adults. It's fun to play, but adults know exactly what's going to happen. There's no real mystery to the game. Nobody's afraid that the baby might disappear forever just because she's out of view.

Now let's look at peek-a-boo from a young child's point of view. When an adult hides his face, the baby thinks about the situation very differently. The adult might really be gone! Starting around 12 months of age, peek-a-boo helps children learn about object constancy — the fact that something can be hidden from view but still exist in the world. If we slow the game down, it may look something like this:

1. I can't see grandma's face. (making an observation)
2. Where did she go? Is grandma still there? (asking a question)
3. I've played this game before, and I think she's still there. (creating a hypothesis)
4. Let's see . . . Peek-a-boo! It's great to see grandma again! (testing hypothesis)
5. I was right. Grandma can hide her face, but I know she's still here. (evaluating the evidence)

By playing peek-a-boo, children test their ideas about things or people that disappear. Over time and with evidence from many games, children learn that hidden objects still exist.

Babies learn by hypothesis testing.
Let’s take another example of hypothesis testing with a younger child. Tyler is 3 months old, and he loves to watch how things move. One day, Tyler’s dad gently attached one end of a ribbon to Tyler’s foot, and the other end of the ribbon to a mobile hanging above his crib. After a few moments, Tyler discovered something — when he kicked, the mobile moved above him. So he kicked his foot again. The mobile moved, just like the first time. Soon Tyler was kicking all the time — he learned that he could make the mobile move by kicking his foot. After playing for a short time, Tyler’s dad removed the ribbon from Tyler’s foot and took the mobile down from the crib.

A few days later, Tyler’s dad did the same thing and attached one end of a ribbon to the mobile and the other end to Tyler’s foot.

It was time for Tyler to test a hypothesis. It might have gone something like this:

1. I see the mobile.
2. Can I make it move?
3. I made it move before by kicking, so kicking might make it move again.
4. I will kick again.
5. It moved! I can make the mobile move by kicking!

By hypothesis testing, babies like Tyler learn that they can make things happen. Making mobiles dance is only the first step. Once babies learn that they can make things happen, they want to make lots of things happen. One discovery leads to a handful of new ideas to test.

The power of hypothesis testing comes from the way it changes or supports what children already know. If the new evidence matches their predictions, their knowledge is reinforced. If the new evidence contradicts their ideas, they change their thinking. Through hypothesis testing, shaky ideas become solid, incomplete ideas become clearer and misconceptions get corrected.

With this new knowledge, children make more accurate observations, ask new questions, and create better hypotheses. Like scientists, the more they experiment, the more they learn.

**Helpful Parenting Tips**

Hypothesis testing is an active process, and babies and young children are active learners. By observing, asking questions, making predictions, and testing their ideas, children make astonishing discoveries. These discoveries lead to new observations, new hypotheses, and new tests in an amazing upward spiral of learning.

- Take the time to let children explore, test and learn at their own pace.
- Repetition is an important part of hypothesis testing and learning. Try to enjoy your baby’s explorations, even if it means playing peek-a-boo over and over again.
- Provide lots of “data” for your baby to test. Try taking your baby outside to see, touch and feel all sorts of new things.
- Try to provide a safe environment for discovery. These little explorers will get into
everything within their reach. Babyproofing the home is important for your child’s safety.

Scientists need lots of time, good helpers and safe places to make important new discoveries. Babies, our little scientists, need the same things — a lots of hugs along the way.

Testing 1, 2, 3…

Terrible twos and hypothesis testing.

The “terrible twos” can be a very difficult time for parents and caregivers. Children at this age not only do things adults don’t want them to do, but also do things because their caregivers don’t want them to. If it seems like children are intentionally disobeying or disregarding their caregivers’ wishes — it’s because they are!

But 2-year-olds behavior, so difficult to deal with at times, is only part of the story. It may seem hard to believe, but these children actually have good reasons for driving their caregivers crazy. They are learning what happens when people want different things. In other words, they are learning about conflict and are using a powerful learning mechanism — hypothesis testing. The terrible twos are really just a part of children’s experimental program to figure out the world. Primary caregivers, unfortunately, are the main test subjects.

What they want to learn—how conflict works.

By the age of two, children are trying to understand conflict. At younger ages, children believe that their desires (what they want, what they like) are the same as everyone else’s desires. When everyone wants and likes the same things, there’s no real conflict. But at around 18 months, children begin to understand an important new concept — people have different desires.

How do we know this? One creative experiment, using crackers and broccoli, gives us solid evidence (Repacholi & Gopnik, 1997). Researchers showed 14-month-old and 18-month-old children two different bowls of food—one filled with Goldfish crackers and one filled with raw broccoli. When given the choice between the two foods, both the 14-month-old and 18-month-old children chose the crackers.

Next, a researcher tasted the foods in front of the babies. When she ate the crackers, she made a disgusted face and said “Yuck.” With the broccoli, she smiled and said “Yum.” Then, with both bowls of food in front of her, she put out her hands and asked the babies to give her some food. This was the experimental question: would the babies give her some crackers or some broccoli?

The 14-month-old babies gave the researcher crackers, even though she said “yuck” when she ate them before. They didn’t yet understand how another person could want or prefer something different from their own tastes and desires.

The 18-month-old babies gave the researcher broccoli, showing that despite their own preference for crackers, they understood that the adult preferred the vegetable. They
understood that the adult had different desires for food.

In other words, 18-month-old children are beginning to understand that people are truly different, and that what they want is not necessarily what adults want. And this is a recipe for conflict. Children need to learn how conflict works — and how to resolve it.

How children learn—hypothesis testing and conflict.

To learn about conflict, 2 year-old toddlers launch a series of experiments. This process is called hypothesis testing, and it is a powerful way children (and scientists) learn about the world. It starts with what children already know about people and their desires. With this knowledge, children make predictions (hypotheses) and test them to see if their ideas are correct.

Hypothesis testing involves 5 steps:

1. Making observations
2. Asking questions
3. Creating hypotheses (what they think will happen based on what they know)
4. Testing hypotheses
5. Evaluating the evidence

For example, let’s take a 2-year-old who has just grabbed his mom’s lipstick. He really wants to make a big red streak on the wall, but he thinks his mother might not like it if he does. He’s trying to learn how his mother will react.

Here’s what hypothesis testing might look like:

1. “I have mom’s lipstick and I want to make a big red mark on the wall. I know that my mom doesn’t want me to mark on the wall.” (Observation)
2. “What will happen if I do what I want and make a big red mark with the lipstick?” (Question)
3. “When I used a crayon to mark on the wall, mom got angry. I think she might get angry again.” (Hypothesis)
4. “Here I go, even though mom has a bad look on her face!” (Testing)
5. “Mom got really angry — and this is what it’s like when she’s angry.” (Evaluating the evidence)

Of course, these steps seem very rational—and they don’t describe the tears and frustration that normally accompany situations like this. Despite the intensity of these emotions, children are very motivated to learn more about how conflict works and how it gets resolved.

Helpful Parenting Tips

- Understand that children need to learn about conflict from their parents and caregivers.
These young children aren't bad, they're curious. Expect them to test you often.

- Provide consistent responses. When children test their hypotheses, they are gathering evidence about how people deal with conflict. The best evidence is reliable, consistent, and loving.
- Don’t let the conflict escalate. Keep emotions in check and remove a child (or tempting object) from a situation if the conflict continues.
- Focus on the positive aspects of this age. These toddlers are not only learning how conflict happens, but how conflict gets resolved. If they are surrounded with healthy, consistent models, children can learn how to handle future disagreements in constructive and effective ways.
- Hang in there! The terrible twos, and the difficult challenges they can bring, don’t last forever.

**Copycats**

You are your baby's first teacher.

Fortunately for parents, babies are amazing students. They're so good at learning, they do it even when we don't know we are teaching them. Babies learn by watching, hearing, feeling, and tasting the world around them. In a way, your home is your baby's first classroom. Every waking hour, you can bet your child is learning something.

How do they do it?

Babies are the world's best copycats.

Babies learn a lot by watching what you do and then trying it themselves. For example, babies love to copy your facial expressions. When you smile, babies try to smile too. If you stick your tongue out at a newborn, the baby will stick out his tongue in return. Researchers have found that babies as young as 42 minutes old will copy adults who stick out their tongues (Meltzoff & Moore, 1977, 1983). Nobody had to teach your newborn to copy you babies are born copycats. It's one powerful way they learn how to act.

As they get older, babies get even better at copying what they see people do. Before they can talk, babies may hold toy telephones to their ears just like mom or dad. If your 12-month-old child sees you pick up a hammer to fix the kitchen table, don't be surprised when your child later grabs the hammer and makes a few dents in your furniture. In fact, researchers have found that 12-month-old children can remember and copy some actions they see up to four weeks later—even if they haven't had a chance to practice them in the meantime (Klein & Meltzoff, 1999). When your child is watching, you become the teacher of a very quick learner with a surprisingly long memory.

You're not your baby's only teacher.

Every person your baby watches might be teaching her something. Even though children copy
their primary caregivers more than other people, babies can watch and learn to imitate anybody they see. This includes family members, babysitters, neighbors, and even strangers. We are smart to think about who we invite into our homes — our child's first classroom.

Yet most of us invite strangers into our homes every day. We watch these strangers when we turn on our televisions. So does your baby.

Most American children watch television — and lots of it. On average, children under six watch three hours a day (Nielsen Media Research, 1997). Children under two years old, by conservative estimates, are exposed to about two hours of television per day. Babysitters and caregivers often use television and videos as a babysitting strategy, and the television frequently remains turned on during other home activities.

Do children learn from watching television? And if so, what are they are learning?

To explore the first question, Andrew Meltzoff (1988) set up an experiment to see if babies would imitate what they saw on a television monitor. Babies are very good at imitating what they see people doing — babies learn how to act by watching other people. This experiment was designed to see if babies would imitate the activity of a person on television. Meltzoff tested 120 children, ages 14 months and 24 months.

Here's how the experiment worked. Half of the babies (60) watched a 20-second video of a stranger on television playing with a new toy. The toy was made of two cubes attached by a small tube, so that it looked like a small dumbbell. On the video, the person pulled the toy apart in a special way three times, showing the babies a target action to copy. The other half (60) was split into two groups: one group did not see any video, and the other group watched a stranger on television playing with the toy without taking it apart. This experiment then explored three questions:

1. Would the babies who saw the person on the video imitate the behavior and play with the toy in the same way?

2. Would the 14 month-old babies imitate the behavior even if they didn't see the toy for 24 hours?

3. What would the other babies, who didn't watch anyone take the toy apart, do with the toy?

Here's what happened.

With the **24 month-old** babies who saw the video, 18 out of 20 (90%) took apart the toy just like the stranger on television. Of those who didn't see the person play with the toy, only four out of 20 (20%) took the toy apart on their own. This is a clear indication that 2 year-olds can learn from watching a stranger on television.

With the **14 month-old** babies who saw the video, 13 out of 20 (65%) took apart the toy. Of those who didn't see how to play with the toy, only six out of 20 (30%) took the toy apart on their own. Although these findings aren't as strong as with the 24 month-old children, they are
statistically significant and suggest that very young children can learn by watching television.

One group of 14 month-old babies did not see the toy again for 24 hours. Even with this delay, eight out of 20 (40%) remembered and imitated what they saw the adult do with the toy. Only two out of 20 (10%) took the toy apart on their own.

This research shows that infants as young as 14 months old will copy some of what they see on television, even when that person is a stranger and children 2 years-old are even more likely to copy what they see on TV.

**What are babies learning from television?**

That depends on what they are watching. But you can bet they are learning something. In the research we just presented, in just 20 seconds of watching TV, babies as young as 14 months-old learned how to do something new. Think of what they might see in one hour of TV.

This doesn't mean that young children will copy everything they see on TV. Other research (Barr & Hayne, 1999) shows that if the activity is too complicated, babies will not imitate it. But with more simple actions or small parts of complicated ones, babies can — and will — try to imitate what they see on TV. And as children get older, they get better and better at imitating what they see.

**Helpful Parenting Tips**

Our children are watching and learning from us in everything we do - from everyday actions to special occasions. They watch how we talk, how we eat, how we react to situations, and how we relate to others.

- Treat your home as your child's first classroom, and the people inside your home as your child's first teachers. Babies are active learners from the start!
- Remember that babies watch-and copy-the things we do. It's never too early to provide positive examples.
- Think about what television brings into your home. What does your child see, and what might your child copy later?

Above all, enjoy the amazing learning abilities your child possesses. Babies and young children are incredible copycats, learning by example.

**Baby See, Baby Do!**

**Babies can remember a lot.**

For decades, scientists didn’t think babies could remember much. Although parents and caregivers suspected that more was going on inside their young children’s heads, many “experts” thought babies experienced the world as simply a blur of sights, sounds, smells and textures.
They were wrong.

Parents and caregivers were right all along. Babies can remember a lot. And they can remember some things for a surprisingly long time.

Short fingers and long memories.

How can we learn what babies remember? Since babies can’t answer scientists’ questions directly, researches have had to develop clever ways to learn how long babies can remember things. One type of experiment uses deferred imitation to see how long babies remember how to do things. Deferred imitation is based on two main ideas:

1) babies will imitate what they see people do;
2) babies can remember what they see and copy it at a later time.

For example, researchers might begin by showing babies how to do something new – like how to use a toy they’ve never seen before in a special way. After demonstrating a unique way to play with the toy, researchers will remove the toy from the room so that the babies can’t practice or experiment with it (parents can’t watch either – no “coaching” is allowed). After some time passes, researchers will give the unusual toy to the babies to see what they will do. If the babies play with the toy in the unique way they saw demonstrated earlier by the adult, researchers know that the babies remembered and copied what they were shown.

How long can babies remember what they are shown?

In one series of experiments, researchers wanted to learn if 12-month-old babies could remember what they were shown after delays of three minutes, one week, or four weeks (Klein & Meltzoff, 1999). Researchers first showed groups of babies five different toys and an unique way to play with each of them, like pulling apart a dumbbell-shaped toy or making a “stirring motion” with a wooden stick inside a box. After showing these babies unique ways to play with the toys (for only 20 seconds for each toy), the researchers removed the toys from the room. The researchers also made sure that the parents never saw what the babies were shown, so the babies couldn’t practice at home.

Other groups of babies in the experiment were shown different things. Some babies watched adults do different interesting things with the five toys, and other babies never saw any of the five toys. Later, the researchers placed these toys one at a time in front of the babies to see what they would do.

What they found.

The researchers in this study did three separate experiments, which are combined and summarized here.

- After a **three minute delay**, the babies remembered about 3.5 (about 70%) of the special ways to play with the five toys.
- After **one week**, the babies remembered more than 2.5 (over 50%)
of the special ways to play with the five toys.

- **After four weeks,** the babies remembered about 2.5 (about 50%) of the special ways to play with the five toys.

Groups of babies that were not shown the special ways to play with the toys still figured out a few of these ways on their own. Overall, these babies did about 1.5 (about 30%) of the five special ways to play with the toys.

**Even after four weeks,** 12-month-old babies could remember and copy about half of the things they were shown — and they saw each unique action for only 20 seconds! Also, this study doesn’t suggest that babies can remember and copy what they see for only four weeks, but for at least four weeks. They may remember what they were shown even longer.

**Helpful Parenting Tips**

Babies learn by watching and copying people — and they’re very good at it. They can watch an adult do something just a few times, for only 20 seconds, and remember how to do it four weeks later.

- Show babies positive examples to imitate and remember like giving hugs, treating others well, and playing with toys in fun new ways.
- Remember that babies don’t know the difference between what is safe and what is dangerous they are watching everything we do, including things like working with sharp tools and using poisonous cleaning supplies.
- Celebrate your baby’s growing memory when they remember how to do things.

Enjoy the wonderful learning abilities of children and remember that babies might copy any model they see. If you are entrusted with the care and nurture of children, thing of ways to fill their lives with healthy, safe examples to copy.

**References:**


**Information for Talaris Research Institute:**

The information on this Spotlight is the property of Talaris Research Institute and protected under U.S. copyright and other laws. If it is your desire to use or reproduce the material contained herein, please request permission by emailing Cindi Pendergraft, Director of Marketing at cp@talaris.org | P.O. Box 45040 Seattle, WA 98145 206-529-6898, ext. 303 | fax 206-529-6899 | Talaris Research Institute © 2003.
Is my child ready for kindergarten? What are the readiness factors for kindergarten? Should I send my child with a late summer or fall birthday to kindergarten, or should I wait another year? These are some of the questions puzzling parents as they look ahead to elementary school.

To answer these questions it is helpful to look at your child as well as the kindergarten your child will attend. Children who fit comfortably into their kindergarten have a rewarding and productive year, thus beginning their elementary school years with a positive attitude about academics.

California public kindergartens are mandated to be "Developmental Kindergartens." But what does "Developmental" mean? Programs which fit the curriculum and expectations to the developmental level of each child, rather than expecting the child to be ready for the demands of the curriculum are developmental. When the kindergarten is truly developmental, four-and-a-half-year old children as well as older five-year-old children will be met with the education stimulation appropriate to their learning needs and abilities. However, diminishing funds often lead to large class sizes and fewer support personnel for teachers, making it more and more of a challenge to realistically meet the needs of a broad range of children. Therefore, it is beneficial for parents to get some information about the kindergarten. Pertinent questions to ask include:

What procedures do you follow to make this a developmental kindergarten?

- How many children are in this year's class?
- What is the age range of this year's class?
- How much support is available to the teacher, such as aides and volunteers?
- How and when are they trained?
- How does the class assure children learn at their own pace? What techniques are employed to teach children who assimilate concepts faster or slower than the average?
- Many parents call the school and make an appointment to visit and observe a kindergarten. Parents of children currently or recently in the kindergarten possess a wealth of information about specific programs. Parents with values or goals similar to yours will be your best source of information.

Ideally the kindergarten should be ready for the child rather than getting the child ready for the kindergarten. If your school is not strongly developmental in practice, you can see if your child fits the profile of children who have a successful experience in any kind of kindergarten by answering the following questions. Compare your home observations
with those of your child's Nursery School Teacher. Sometimes children's behavior is different in a group than at home; kindergarten is a group experience.

Does my child....

- have strong self-management skills?
- work independently?
- make his/her own choices without teacher or parent interaction?
- show willingness to try something new, is not apprehensive about new situations after a short adjustment period?
- wait his/her turn in a group situation in play, during snacks, sharing materials?
- interact well with other children on an equal footing?
- negotiate most of his/her own social problems fairly successfully?
- express his/herself well to communicate what he/she does and does not understand?
- have strong self-confidence and self-esteem?

If your child does not yet meet the above profile, give some thought to your options. If the program is truly developmental, your child will learn at his/her own pace and develop during the year. If you do not believe the program is developmental in practice (for example, there is a big emphasis on academic skills such as reading), you may decide to give your child another year to develop. Think about how your child will spend this time. Some productive alternatives include: a stimulating and nurturing nursery school, a young five's program, or a junior kindergarten. Staying at home with no opportunities to develop independence and successful peer interactions will not be helpful, nor will a program which forces academics on the child who is not yet ready. Talk to this year's nursery school teacher and next year's kindergarten teacher and listen to their opinions.

Kindergarten is a significant step on the path of education. A little consideration and planning on your part can make this step a rewarding and successful time for your child.

**Understanding and Facilitating Preschool Children's Peer Acceptance**

**Peer Acceptance And Children's Behavior**

Children's understanding of emotional expressions and situations has been found to relate to how well peers like or dislike them. A study at George Mason University suggests that well-liked children are better able than other children to read and respond to peers' emotions. Disliked children may misinterpret peers' emotions, leading to difficult interactions and eventual rejection by peers.

In general, positive behaviors, such as cooperation, are associated with being accepted by peers, and antisocial behaviors, such as aggression, are associated with being rejected. This is confirmed by recent studies identifying characteristics and behaviors related to being liked or disliked by peers.

Good communication is a skill important to the continuation of social play. Well-liked children appear to communicate better than disliked children. In a study at the University
of Texas, well-liked children were more likely than others to be clear in direct communications by saying the other child's name, establishing eye contact, or touching the child they intended to address. Well-liked children more often replied appropriately to children who spoke to them, rather than ignoring the speaker, changing the subject, or saying something irrelevant. While well-liked children were not any less prone to reject peers' communications toward them, they were more likely to offer a reason for the rejection or suggest alternatives. For example, in rejecting a peer's suggestion--"let's pretend we are hiding from the witch"--a well-liked child was more likely to say, "no, we played that yesterday," or, "no, let's be robbers instead," rather than just saying, "no."

**Peer Acceptance And Social Reputation**

It is important to recognize the role of the peer group in maintaining a child's level of social acceptance. Once a child has established a reputation among peers either as someone with whom it is fun to play or as someone with whom joint play is unpleasant or dissatisfying, this reputation may influence the way other children perceive the child's later behavior. If a negative reputation is developed, helping the child become accepted may require more than a change in the child's behavior; it may also be necessary to point out to the other children when the child's behavior changes and to guide them to respond to the child in positive ways.

**How Can Teachers And Other Adults Help?**

Studies such as those mentioned above suggest important elements to be considered by those who wish to understand why a particular child is unpopular and need to decide what to do to help that child gain social acceptance. To assist a disliked child in gaining acceptance, careful, informed observation is needed.

Observe behavior and note: Does the child have greater success interacting with one or two peers than with larger groups? Does the child often seem to misinterpret the apparent intentions and emotional cues of other children? When rejecting a playmate's suggestion, does the child provide a reason or an alternative idea? Do classmates consistently rebuff or ignore the child's attempts to engage in play, even when the child is using strategies that should work? There is no recipe for facilitating acceptance. To help a child, it is essential to identify the child's areas of difficulty.

**Strategies To Consider**

Adults who work with groups of children may feel frustrated in their attempts to help a child achieve social acceptance. Many approaches can be adapted to particular situations and needs of individual children. Special play activities can be arranged, such as grouping children who lack social skills with those who are socially competent and will thus provide examples for learning effective skills. Planning special play sessions with a younger child may help the socially isolated child. Research reports that socially isolated preschoolers exposed to play sessions with pairs of younger children eventually become more socially involved in the class than do isolated children who play with children of their own age. The decision to pair a child with a younger or more socially skilled child should depend on whether the child's social isolation is due to ineffective social skills or lack of confidence. Some children have adequate social skills, but are anxious and
inhibited about using them. Opportunities to be the big guy in play with a younger child may give the inhibited child a needed boost of social confidence.

Sometimes disliked children behave aggressively because they don't know how to resolve conflicts. Planned activities can help children generate alternative solutions to difficult social situations. Skits, puppet shows, or group discussions that present hypothetical situations can encourage a wide range of ideas for potential solutions. Such methods can increase the number of appropriate strategies, such as taking turns or sharing, that are available to the children. However, to effectively implement such newly learned strategies in the classroom, children must be given on-the-spot guidance when real conflict situations occur. To help with conflict resolution, the adult can encourage the children involved to voice their perspectives, generate potential solutions, and jointly decide on and implement a mutually acceptable solution.

When a child has difficulty entering ongoing play, an adult can steer the child toward smaller or more accepting groups, or can structure the environment to include inviting spaces for private small group or one-on-one play. A loft, a tent, or a large empty box might make an inviting space. When a child asks, "Can I play?" the teacher can guide the child in observing the ongoing play, figuring out the group's theme and purpose, and thinking of a role to play or of ways to contribute to the group. On-the-spot guidance by adults can facilitate communication, which contributes to successful play. A child who rejects playmates' ideas without offering explanations or alternatives could be told, "Ben I don't think Tom understands why you don't want to play store. Can you tell him why?" or "Can you tell him what else you could do together?" A disliked child having difficulty reading others' emotional cues might be given a suggestion--"Look at Mary's face. Do you think she likes it when you poke her?"

In addition to using techniques that focus on the disliked child, adults may need to translate for the peer group the unpopular child's behavior and apparent intentions. For example, an adult might say, Thomas wants to play with you. If you don't need another father, who could he be instead?" However, when intervention focuses on the peer group, adults should not force peers to play with a disliked child. This may cause resentment and increase rejection of the child.

The teacher's attempts to help a disliked child find a comfortable niche in the peer group may prove more successful if the child's family is involved, either directly or indirectly. After describing to the parent what techniques are being tried in the classroom, the teacher may suggest how the parent can use some of the strategies to help the child play with peers at home or interact with siblings. Children who feel good about themselves and experience loving family relationships may bring their expectations of acceptance and success to the peer group. Such expectations can become self-fulfilling prophecies.

For the child whose poor self-concept reflects difficulties in the child's family, parent conferences in which the teacher can offer support may be helpful. Literature on such topics as positive discipline and effective parent-child interaction can be offered on a parent reading shelf or bulletin board. Parent discussion groups, facilitated by a knowledgeable professional, can provide information about the importance of social competence and guidance strategies that can help parents facilitate their child's development.
Five Ways to Stimulate Brain Power in Your Child

OVERLAND PARK, Kan., April 7, 1998 -- You've heard it before, children are the world's most valuable resource. We love, care for and help them learn and grow. Now, new brain research shows that there are specific things parents can do that will have a permanent and positive effect on a child's ability to learn.

"Basically, the latest research confirms the importance of what many parents do instinctively, such as reading, cuddling and talking to their children," said Angie Dorrell, director of curriculum for La Petite Academy.

The brain research shows that an infant's brain at birth has 100 billion nerve cells, or neurons. The neurons grow and connect with other neurons that control various functions such as seeing, hearing and moving. If a child's brain is not stimulated from birth, the neurons don't develop or even disappear, impairing a child's ability to learn and develop.

La Petite Academy and organizations throughout the country are emphasizing these findings during the annual "Week of the Young Child," April 19-25, 1998, sponsored by the National Association for the Education of Young Children (NAEYC).

According to Dorrell and other child development experts, here are five specific things parents and caregivers can do to stimulate children and ensure healthy development.

1. Be warm, loving and responsive. Children who receive warm and responsive caregiving, such as touching, rocking, talking and smiling, get along better with other children and perform better in school than children who are less securely attached.

2. Talk, read and sing to your child. Talk and sing about daily events. Read stories in a way that encourages older babies and toddlers to participate by answering questions, pointing to what they see in a book or by repeating rhymes and refrains.


4. Use discipline as an opportunity to teach. Parents need to set limits that help teach children, rather than punish them. For example, tell your child what behavior is acceptable while maintaining love: "I love you, but I don't love what you're doing." Communicate positively: say "feet belong on the floor please," instead of "Get off the chair."

5. Choose quality child care and stay involved. After choosing your provider, stay involved. Drop in unannounced. Ask for progress reports. Look for appropriate curriculum to guide the child's curiosity, creativity and problem-solving skills.
EARLY CHILDHOOD EDUCATION

The earliest years of a child's life are key to predicting ultimate success in school and life. Recent research findings pointing to the importance of the first three years in brain development have serious implications for education.[1] These early learning experiences are crucial determining factors for emotional and intellectual development and will ultimately affect how well a child will perform in school.

This report focuses on the importance of quality early education for children, with an emphasis on low-income children. Children from low-income families are at greater risk of hunger, abuse and neglect, and of being exposed to little or no quality child care and early education programs. Children deserve to get off to a good start in life. Their early experiences in the home, the neighborhood, in child care, and in early education programs such as pre-kindergarten and kindergarten all affect how successful they will be later in life.

The Importance of the Early Years of Life

Neurological development is largely a result of the learning that takes place starting at birth and during the earliest years of life.[2] Scientists now believe that a young child's brain needs certain types of stimulation to develop properly. Without that stimulation, certain types of learning will not be possible when the child enters school. Likewise, with the appropriate stimulation, neural pathways are developed that can enhance a child's emotional, social, and intellectual abilities. The more these neural connections are stimulated during this early window of opportunity, the stronger they become.[3] It is so important that everyone who has contact with infants - including parents, grandparents, and caregivers - provide these children with lots of touching, loving, talking, and singing to help them develop to their full potential.

Need for Quality Child Care and Early Education Programs

The number of children with working parents is growing. Nationwide, the proportion of children under 6 years with employed mothers was 7 percent in 1940, 43 percent in 1980, and 51 percent in 1990.[4] The labor force participation rate for women between ages of 25 and 54 (who have traditionally been the primary caregivers of young children) is projected to rise to 83 percent by the year 2005.[5] This means that a growing number of children, even very young children, will be cared for by people other than their parents.

Children in single-parent families are particularly likely to spend a significant amount of time in child care programs. One in four children under age 6 lives with a single mother; another 4 percent live with a single father.[6] Welfare reform, which requires mothers to work, will greatly increase the numbers of children needing child care in the future.[7] With more women entering the workforce and increasing numbers of individuals entering the workforce in welfare-to-work programs, a growing number of children spend their
critical early years in day care. During these years it is especially important that children have a quality child care experience that addresses their developmental needs.[8]

Over 1.5 million Texas children (28.6%) are living in poverty according to new census statistics.[9] Young children are even more likely than other age groups to live in poverty with 30.3 percent of children less than 6 years being poor.[10] Federal poverty guidelines state that a family of three was living in poverty in 1997 if their income was $13,330 or less. Children growing up in low-income households face increased risks of:

- Hunger
- Academic failure
- Teen pregnancy
- Poor health
- Dropping out
- Exposure to violence and crime

These children deserve to receive early education that will help them enter school prepared to learn.

**Benefits of Early Child Care and Preschool Education Programs**

Children exposed to positive, stimulating experiences as young children develop enhanced learning capabilities, which improve their odds for excelling in school. Children who attend preschool or other early education programs:

- have enhanced cognitive, verbal, and social development, which is maintained into the first few years of school. [11]
- have significantly higher IQs [12]
- enter school better prepared to learn. [13]
- are less likely to exhibit later delinquency and antisocial behavior. [14]
- tend to demonstrate higher levels of school achievement and better social adjustment. [15]
- are less likely to have to repeat a grade or be placed in special education classes. [16]
- are more likely to graduate from high school. [17]

Clearly, there can be long-term benefits from quality early childhood education. In fact, according to one researcher, "...for many children, preschool programs can mean the difference between failing and passing, regular or special education, staying out of trouble or becoming involved in crime and delinquency, dropping out or graduating from high school." [18]

Children from impoverished environments tend to reap the most dramatic benefits from early childhood programs. [19] Early education can increase parents' and teacher's expectations of children's performance. Children growing up in poverty or near poverty face many health and environmental risks. They, in particular, need to get off to a good start in life. One way to help these children is to place them in quality early education programs.

**What Constitutes Quality Early Education?**

Early education programs, including child care, pre-kindergarten, and kindergarten, have an opportunity to help children develop to their full potential. Children who attend programs that meet high quality standards are more likely to provide lasting benefits. For instance, children who receive warm and sensitive care are more likely to trust people, to enter school ready and eager to learn, and to get along well with other children. [21]

Other factors that are predictors of good early education include:
• small group sizes,
• high teacher/child ratios
• appropriate staff wages
• trained staff
• a curriculum geared specifically to young children
• parental involvement [22]

Programs with a strong parent involvement component have been shown to improve outcomes for children in several ways: 1) Parents of children living in neighborhoods characterized by social disorganization become more empowered and better able to access resources; 2) Parents with harsh or inconsistent parenting practices are provided more effective and supportive alternatives; 3) Some programs offer other support services such as job training and counseling. [23] Providing quality early education and fostering a developmentally appropriate home environment can have long-lasting benefits for the child, the family, and the community as a whole. See the description of Parents as Teachers, a model program of parental involvement in child development.

Availability of Early Childhood Education
Many children are not able to participate in early education programs because they are unavailable or too costly. Nationally, over half (52%) of 3- and 4-year-olds in high-income families were enrolled in preschool in 1993, compared to one-fourth (24%) of 3- and 4-year-olds in low-income families. [24] Families living in poverty are less likely to send their children to child care, and those that do may find that the services are barely adequate. [25] With more women entering the workforce, the need for child care is rising and the disparity in quality will become more problematic.

Several national studies on child care have found that most child care facilities are not providing the kind of quality care our children deserve. [26] According to a study of the University of Colorado, only one in seven child care centers and one in ten family child care homes nationwide posses the quality needed to enhance children's development. [27] Another study of the Families and Work Institute found that 13 percent of regulated and 50 percent of non-regulated family child care providers offer care that is inadequate. [28]

Children in low-income families are particularly at risk of receiving inadequate care. According to the National Research Council, Institute of Medicine, "Many children living in poverty receive child care that, at best, does not support their optimal development and, at worst, may compromise their health and safety." [29] Even Head Start, which is widely acknowledged as a very successful program to help economically disadvantaged children develop social competence and readiness for school, has problems associated with large group sizes, poor teacher pay (resulting in high turnover rates), and providing classes only part of the year. There is also considerable variation in quality between different Head Start programs. [30] In Texas, Head Start served more than 55,000 Texas children in 1998, [31] only an estimated 25 percent of children who are eligible. [32]

Similarly, public pre-kindergarten programs, available in public schools to children who are unable to speak and understand English, are disadvantaged, or homeless, only serve about two-thirds of eligible children. [33] The percent of children in pre-kindergarten are given for each county at the end of this report. Young children need access to high quality early education and child care programs that are suited to the particular needs of the child in order to ensure lasting developmental improvements.
Conclusions

Student's achievement in school and in life is influenced by their early educational experiences. New research findings on early brain development make it clear that quality care and early education should be vital components of every child's life. New knowledge about child development should be incorporated into early childhood curricula and parent education. Continued scientific research on brain development and early learning is needed.

Policymakers should be clear about what we expect children to be able to do when they enter school so that early education can be geared toward specific measurable goals. More coordination is needed of the full range of early childhood programs and Texas should work to ensure adequate teacher training and curriculum development. Full funding should be provided for Head Start and similar programs as well as full-day pre-kindergarten in public schools, thereby giving all children a good shot at entering school ready to learn. Children in child care should also have the opportunity to receive quality age-appropriate care.

Quality early education can produce important long-term improvements in the intellectual and social development of disadvantaged children. However, many families, but particularly low-income families, do not have access to quality child care and early education programs. Texas should invest more in both the quantity and quality of early care and education and not squander the opportunity for potential gains for children.
Quality Early Learning

PROBLEM
An increasing number of children spend a large part of the day with non-parental caregivers. This trend is expected to continue in the population in general and to accelerate among low-income families as new public assistance policies move more families into work or training activities. Yet, studies show that less than 30 percent of non-parental caregivers provide care that is good enough to enhance children's development.

PROPOSAL/SOLUTION
Improve the quality of care through a variety of strategies that include development opportunities, financial incentives and higher regulatory standards for caregivers. Parent education and active participation are also critical.

BACKGROUND
EARLY LEARNING COUNTS
Neurological research continues to stress the importance of early experiences for infants and young children. Positive experiences in these early years create physical differences in the brain that have a lifelong impact on the child's emotional and intellectual capacity. These experiences include interaction with a caring adult, consistency of care and exposure to stimulating activities.

Parents are the primary source of this care, but an increasing number of children spend a significant part of their day in the care of others. The National Education Foundation reports that fifty-nine (59) percent of children spend time in non-parental care. Twenty-eight (28) percent of those children spend more than 35 hours per week in non-parental care. On average, infants spend four more hours per week in non-parental care than older children. Care may be provided by a relative, a family home caregiver or a center based program. A small percentage of children receive care from non-parental providers in their own homes.

Research shows that high quality care enhances development and can even improve the parent child relationship. It also shows that poor quality care has the opposite effect. (NICHD Study, April, 1997.) Other studies show that quality early care and education improve a child's chances of succeeding in school. Long-term improvements for low income children are greater than those for higher income children. (Cost, Quality & Outcomes, 1999)
When care is consistent and loving, children benefit. However, many settings provide haphazard or even dangerous care that can produce lifelong problems. Access to high quality, affordable early learning is necessary for children to thrive and for parents to succeed at work.

Unfortunately, the non-parental care children receive may not support positive development. A study of childcare centers found that seventy (70) percent provided mediocre care and that one in eight centers actually threatened the health and safety of children. (Cost, Quality and Child Outcomes Team, 1995) The quality of family home care is even harder to assess because each home is so different and the range of care is so large. In a study done in 1994, the Families and Work Institute found that only nine (9) percent of family homes provided good quality care and thirty-five (35) percent provided inadequate care. The rest gave care that was neutral; it was not harmful but it did not promote positive development. Infants and toddlers are especially vulnerable to poor quality care. It is estimated that forty (40) to sixty (60) percent of facilities may be dangerous to these very young children. (Children's Defense Fund, 1997)

WHAT IS QUALITY CARE?

Studies have yielded a wealth of knowledge about what constitutes quality care. Quality care requires competent caregivers, stimulating programs and parents who are actively involved in their child's early learning experiences.

There are a number of ways to assess quality in early learning settings. At a minimum, facilities should meet basic health and safety standards. Children should be well supervised and have frequent, positive interaction with their caregiver. In the best programs, trained caregivers apply what they know about early childhood development using principals that are accepted by the profession as "best practices". Quality care is enhanced when parents not only understand how to recognize and select a quality setting, but also work in active partnership with the provider to ensure that the caregiver and parent are both working toward a good result for the children.

A number of studies identify specific characteristics of positive care giving. For babies, warm, responsive, consistent care is critical if the infant is to feel securely attached to one or more caregivers. When care is erratic or neglectful, children do not learn to trust others and may become dependent and anxious later in life. At one year of age, the kind of attachments a child has formed can already predict behavior problems, quality of peer relationships and teacher ratings in preschool. These early attachments also bear on later school achievement. (Shore, 1997)

Older children also need responsive care, coupled with activities that are appropriate for their age and developmental level. They need a mix of activities that supports the development of motor, language and cognitive skills. Preschool age children are also learning how to interact with others.

A quality program includes skilled caregivers, along with a structured set of activities or curricula that lead to positive child development. These are generally more formal settings, like licensed family homes or early learning centers. The degree to which these programs are regulated provides some measure of quality. Early learning programs may assure health and safety through state licensure or may promise appropriate curricula through accreditation.
Finally, parent participation is another factor in a child's successful early education. When parents are educated consumers they know how to assess caregiver and program quality. Once they find a comfortable setting, their on-going participation improves a child's later success and reduces the chances of negative results. (Kagan, 1997)

**BARRIERS TO ACHIEVING QUALITY**

Our current body of research clearly demonstrates what is needed to improve quality. It provides tools for assessing quality and quality improvements. But it also shows that a significant number of caregivers still do not provide quality care. What issues must be considered to achieve high-quality early learning?

**ISSUES: CAREGIVER QUALITY**

In a recent study, three of five factors linked to better results for children were related to caregiver development. (Florida Child Care Quality Improvement Study, 1995) Researchers clearly understand the importance of the relationship between caregivers and children but that understanding is seldom translated into policy or practice.

Efforts to improve care, particularly through caregiver development, are hampered by public ambivalence about non-parental care and misconceptions about the role of the caregiver. A number of people believe that any non-parental care is harmful or second best while, at the same time, public policy is less and less supportive of parents who stay home. There is also a common perception that care giving is "mindless, custodial work." (Kagan, 1997) In this view, non-parental care is "just baby-sitting" and it is deemed adequate if the child is unharmed at the end of each workday.

Our sense of what non-parental care giving is worth shows in the extremely low wages paid to providers. Nationwide, the median income of a child care worker is $13,156—substantially less than bus drivers ($20,600), garbage collectors (20,500) and bartenders ($16,000). Very few centers or family homes can afford to offer employee benefits like health care or vacation. The extremely low pay scale and lack of benefits make care giving unattractive as a profession. With recent low rates of unemployment, many programs report that they simply cannot find people qualified to fill staff vacancies.
For those who do become caregivers, it is hard to remain for the long term. Many workers leave the industry each year in search of better opportunities. In Kansas City, there was an approximate twenty (20) percent turnover in staff in 1995. A center director in St. Louis recently reported that she lost two long time staff members because they were able to make higher salaries and draw better benefits at a local hamburger chain. As long as salaries remain low, it is hard to stay in the caregiving field, much less invest time or money in additional training.

This ever-changing group of caregivers results in a lack of consistency for the child in care. This can have significant consequences for children. For babies and toddlers, turnover is a traumatic event. What adults call turnover, children experience as loss.

There is almost no training support for caregivers in informal settings. These include relative caregivers (kith and kin) or small family homes that are often preferred by families, particularly for babies. Care in these informal settings can be excellent and this type of arrangement is a necessary component of a comprehensive early learning system. These caregivers are often perceived to be inferior and, as "non-professionals", they are often isolated from resources offered to other providers. Yet, with outside supports and training, these providers can improve their skills and reduce feelings of frustration that may arise from a sense of isolation or stress.

Some states are using childcare as an allowable work activity under Temporary Assistance for Needy Families (TANF). Women currently receiving TANF will be asked to provide childcare that will, in turn, allow them to keep receiving their income benefits. While this may boost family income for the caregiver, without some training requirements for the caregiver, it may also result in adding unqualified staff to the childcare market.

ISSUES: PROGRAM QUALITY

The Cost, Quality and Outcomes study of center-based care noted that, "The quality of child care is primarily related to high staff-to-child ratios, staff education, teacher turnover, administrator's experience, and their effectiveness in curriculum planning. In addition, teachers' wages, their education and specialization training were the most important characteristics that discriminate among poor, mediocre, and good-quality centers."

All caregivers need training and better compensation but additional quality improvements can occur in more formal care settings like larger family care homes or early learning center. As businesses, these programs may be subject to various state regulations that ensure basic health and safety standards. Programs also have the option of improving their facilities and curricula to better support early development for children.

The highest level of childcare facilities are those that are accredited. Accreditation is voluntary and is available to both centers and family homes. It includes a self-evaluation and verification by a team of early childhood professionals. While accreditation standards include basic health and safety items, those standards are not enforceable. Accreditation standards also include guidelines for program content. In Missouri, accreditation is available through Missouri Voluntary Accreditation, the National Association for the Education of Young Children (NAEYC) and several others. Accredited facilities currently serve only 15% of the children in care in the state.
The Department of Health (DOH) is responsible for licensing centers and family homes that serve more than four unrelated children. Licensed facilities meet health and safety standards as well as child/staff ratios and various staff qualification requirements. License-exempt facilities are inspected and meet basic health and safety requirements. Licensed and license-exempt facilities serve about half of the children in care.

<table>
<thead>
<tr>
<th>Quality Requirements by Level of Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Accredited</td>
</tr>
<tr>
<td>Child Abuse &amp; Neglect Screen</td>
</tr>
<tr>
<td>Criminal Record Check</td>
</tr>
<tr>
<td>Sanitation Standards</td>
</tr>
<tr>
<td>Fire Safety Standards</td>
</tr>
<tr>
<td>Health Standards</td>
</tr>
<tr>
<td>Safety Standards</td>
</tr>
<tr>
<td>Director Qualifications</td>
</tr>
<tr>
<td>Lead Teacher Qualifications</td>
</tr>
<tr>
<td>Staff Medical Requirements</td>
</tr>
<tr>
<td>Staff-to-Child Ratios</td>
</tr>
<tr>
<td>Group Size</td>
</tr>
<tr>
<td>Developmentally Appropriate Activities</td>
</tr>
</tbody>
</table>

Both accredited and licensed facilities must ensure a sufficient number of staff members to adequately supervise children. This is commonly referred to as the staff-to-child ratio. Low staff-to-child ratios are a key component of a quality early learning experience. When the state of Florida lowered their staff-to-child ratios, a follow-up evaluation showed that children's intellectual and emotional development improved. Teachers were more responsive and less likely to use negative discipline. As a result, a larger number of children have a good early learning environment. (Families and Work Institute, 1995)

Administrator and staff qualifications are also key elements of program quality that are recognized in accredited and licensed facilities. For example, accreditation requires that center directors have a degree in early childhood education and that lead teachers meet
certain educational levels. Licensure may also requires pre-service and/or ongoing training.

Just as a consistent caregiver is important to a child's development, so is having a consistent program. Unfortunately, many children must move from caregiver to caregiver because of parent work schedules or limitations in program hours. This problem is particularly acute for lower income children. For example, Head Start is a demonstrably high-quality early learning program that targets low income children. However, because of funding limitations, Head Start is usually a half-day for four days a week. Low-income parents are also most likely to work non-traditional schedules and to need care outside the hours that care is regularly provided. Twelve (12) percent of young children in care are in multiple settings. Use of multiple arrangements has been shown to "diminish children's attachment to their parent(s) and make child care arrangements difficult for parents to manage." (National Center for Education Statistics, June 1998)

Childcare is crucial for low income families moving off of or trying to stay off welfare. Parents select care for their children and the state reimburses the caregiver for their services. Caregivers include centers, family homes and individuals. The amount that the state reimburses for a low-income child is much lower than what caregivers charge higher income clients. A provider serving low-income children must make up this difference in some way. Some cut down on expenses, often compromising quality in the process. Others charge parents an additional fee, and some providers simply don't serve low-income families. Low reimbursement rates make it more difficult for low-income families to secure quality care for their children.

The reimbursement structure also has an opportunity to influence the early learning market in a variety of ways. It can encourage supply by providing higher reimbursement rates for hard-to-find care, like infant care or evening care. Reimbursement rates can also be used as part of quality improvement efforts. Higher rates for licensed or accredited care, coupled with direct technical assistance, can encourage a caregiver to pursue these quality standards.

ISSUES: PARENT ENGAGEMENT

In general, parents are confused about their child care options. This is especially true for low-income families that may be trying to juggle state subsidies across multiple caregivers. Many do not understand the impact of a quality early learning experience.

A number of parents do understand and recognize a quality setting, but cannot place their children there. Either the caregiver does not provide care during the needed hours or the program is unaffordable.

Finally, a small percentage of parents are actively engaged with their child's early learning provider. This means working with the caregiver to make sure that children receive the type of early education they want for their child. It also means taking part in activities that help build the resource base for all families. Working parents rarely have enough time to become very involved in their child's early learning experience because businesses rarely give up employee work time for such activities. (Kagan, 1997)

HOW CAN WE IMPROVE QUALITY?
While we know and understand the necessary components, current policies and resources do not adequately support the development of better early learning settings for children.

ANSWERS: IMPROVING CAREGIVERS

- Require pre-service training of caregivers who receive any portion of their wages from state or federal funds.
- Adopt standardized curriculum for pre-service training.
- Require specific content for on-going training.
- Overcome obstacles to professional development.
- Raise staff compensation and ensure that salaries are commensurate with experience.
- Provide adequate funding for training services and coordination services including the Missouri Child Care Resource & Referral Network.
- Develop creative ways to offer support to informal providers.

There are large gaps in Missouri's current support for caregiver development. Children's caregivers need not attend any training prior to beginning work but the state does require 390 hours of pre-service training for beauticians. This lack of pre-service training means many children enter care with providers who have little or no understanding of their developmental needs. Other states do require or at least offer a pre-service component. New Mexico has a 45 hour entry-level course for new providers or for those upgrading their licenses. In a recent survey of Missouri providers, 95% said they felt that some pre-service training would be of help. A study is underway to develop a curriculum for pre-service training.

Missouri currently requires ongoing training for caregivers working in licensed facilities. Staff in these facilities are required to complete twelve (12) hours per year. This on-going training is intended to update and expand the skill base of providers but there is no requirement as to content. A staff member could take the same course every year.

Providers in other settings are not subject to on-going training or to director's educational requirements. The Department of Health recently outlined what training a provider needs to have to build basic competence in early learning. These "core competencies" cover such diverse topics as CPR, nutrition, discipline techniques and child development.
Only accredited facilities, licensed centers and family homes, and nursery schools have any director education requirements. Directors in licensed family homes and centers must have some combination of college credit and experience. For a family home or small center (up to 20 children) the director must have 30 hours of college, with 6 of those hours in child development or 6 college hours and 12 months of experience. Educational requirements rise as center size increases. While the requirements are not onerous for experienced providers, they are often very intimidating to staff who might want to pursue early learning as a career. There is no incentive for the professional development of caregivers. In many areas of the state, courses are simply not available. Or, there is no way to work in a center all day and attend courses in the evening. More ambitious staff may find that they cannot transfer credits from a two year college to a four-year college to complete their undergraduate degrees. Through the Opportunities for Professional Education Network (OPEN) project, a team is currently working to devise strategies for a clear advancement path for caregivers from pre-service training, through on-going training and toward careers as early learning professionals.

There will be little motivation for staff to invest their time and effort in training or professional development if there is no increase in wages. One promising project is the TEACH project in North Carolina. TEACH provides scholarships for advanced training in return for a commitment from the caregiver to remain in early learning for a specified amount of time. Once training is complete or the time commitment honored, the caregiver receives either a cash bonus or a pay increase. The program has substantially reduced turnover in the state and improved the skill level of the early learning workforce. It is now being replicated in ten other states.

Even the supports that do exist do not receive adequate funding. The state has made a commitment to training providers through its EDUCARE program. EDUCARE staff provide training and link programs to resources. There has also been a commitment to supporting a statewide network of Resource & Referral Agencies. These agencies are responsible for coordinating training within their areas. However, both EDUCARE and Resource & Referral Agencies are limited by inadequate funding and reach only a percentage of their potential constituents.

Services for less formal providers are extremely limited. Efforts to reach out to informal caregivers do exist in some areas but there is little attempt to expand successful models beyond their current scope. Informal providers are a critical part of our system of early learning services. Like any other provider of care, they benefit from additional support through training. In one childcare center staff sought out the informal care providers in their neighborhood. Those caregivers were invited to the center one afternoon a week. The children could play together, caregivers could relax and the staff had an opportunity to exchange information with both children and providers. Informal caregivers got information and some break from their duties while caregivers at the center became more connected to the surrounding community. This relationship building has helped both groups. We need to develop more creative outreach to informal providers.

ANSWERS: IMPROVING PROGRAMS

- Improve staff-to-child ratios and institute group size requirements.
- Increase the number of licensed centers.
Increase reimbursement rates.
Increase the number of accredited centers.

As found in the Florida Improvement study, **staff-to-child ratios and group sizes** have a lot to do with quality. Staff-to-child ratios represent the number of staff members compared to the number of children. Group size is a total recommended size for the whole group. For example, a program might have a good staff to child ratio if they had one teacher for every six preschoolers. However, if there were 36 children and six teachers in the same room, the size of the whole group might impede good early learning. Missouri has decent requirements for staff-to-child ratios, although they are not quite as low as those recommended by the National Association for the Education of Young Children (NAEYC). Our staff-to-child ratios only apply to licensed facilities. Missouri has no group size standards.

<table>
<thead>
<tr>
<th>Age of Children</th>
<th>Nat’l. Assoc. for the Education of Young Children (NAWYC)</th>
<th>Missouri licensure requirements:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Staff-to-Child ratios</td>
<td>Group Size</td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>1 to 3</td>
<td>6-8 children</td>
</tr>
<tr>
<td>1-2 years</td>
<td>1 to 5</td>
<td>6-8 children</td>
</tr>
<tr>
<td>2-3 years</td>
<td>1 to 6</td>
<td>10-14 children</td>
</tr>
<tr>
<td>3-4 years</td>
<td>1 to 8</td>
<td>10-14 children</td>
</tr>
<tr>
<td>4-5 years</td>
<td>1 to 8</td>
<td>16-20 children</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>1 to 10</td>
<td>16-20 children</td>
</tr>
</tbody>
</table>

Only half of children in care attend licensed facilities so it is important to **increase the number of licensed centers** serving children. Although it is an imperfect measure, licensure does provide some indication of quality. Not only are facilities inspected but there is some recourse if the facility fails to comply with health and safety standards like staff-to-child ratios, fire safety and sanitation regulations. In 1999, the state began to permit voluntary licensure for any care provider. That means that caregivers who are interested in improving quality in their program can get licensed no matter how many children they serve. Licensure will also give these providers access to other services available to regulated facilities. This includes training, participation in the Child and Adult Care Food Program and the opportunity to connect with others who are providing care. The state may also need to address other barriers that keep caregivers from licensure. These barriers would include the absence of a state fire code, how to resolve conflicts between state regulations and local zoning or inspection requirements.

Another incentive to achieve licensure is to **increase the reimbursement rate** for low-income children. Our current structure pays the same rate to licensed and unlicensed family homes. Center rates are somewhat higher. It is more expensive to run a program that must meet staff-to-child ratios, health and safety inspections and director education.
standards. Reimbursement should be made accordingly. Higher reimbursement should also be made to encourage accreditation.

Beyond raising reimbursement rates, the state should take additional steps to increase the number of accredited centers. Accreditation is difficult to achieve. For most programs, the process takes two to three years. Providers not only need sufficient reimbursement to cover their cost but they also need technical assistance in getting through the accreditation process.

ANSWERS: IMPROVING PARENT ENGAGEMENT

- Make parents informed consumers of early learning services by expanding outreach and strengthening the Missouri Child Care Resource and Referral Network.
- Encourage regular communication between parents and caregivers.
- Encourage a variety of opportunities for parent involvement.
- Encourage workplace practices that support families.

To improve quality, parents must learn to assess the quality of non-parental care. Consumer education will help parents pick a good setting for their child. As parents demand better care for their children, the marketplace will respond by improving its practice. The Missouri Child Care Resource and Referral network is already actively engaged in consumer education. Each Resource and Referral Agency assists hundreds of consumers every day but they still only reach a fraction of their potential customers. In addition to individual assistance, the Resource and Referral Network is sponsoring a state-wide public awareness campaign to make people aware of the importance of quality early care and education. Both efforts need additional financial support to reach their full potential.

No matter what type of caregiver a parent chooses, there must be regular dialogue between the parent and caregiver. This helps both work together to achieve the best results for the child. It ensures that children receive consistent support at home and away. And when both parties share their observations and expectations, they can learn from each other in ways that benefit the child.

Caregivers should find a variety of ways to involve parents in the program. Some require that parents commit to some volunteer time in the center. Others offer special workshops and training sessions for families. Parent involvement should include chances to participate in the development of quality standards. When program development is driven by consumer need, children, their families and providers benefit.

Businesses need company policies that are more supportive of families. Some larger companies have already recognized the need to alter their personnel policies in ways that offer more support to families. Many offer flexible time schedules, extended maternity and paternity leave options, allowances for childcare expenses or programs that help parents find care when their children are ill. Offering these benefits pays off in increased productivity and lower turnover. In spite of these gains, many more companies do not offer this type of employee benefit. Informing businesses of the options, costs and benefits of supporting families will help educate the corporate community. These companies may also need technical assistance with implementation. The Missouri Child Care Resource and Referral Network is currently charged with engaging the business community. However, their efforts are constrained by insufficient funding.
CONCLUSION

The issues around improving quality in early care and education are complex. However, we already know a great deal about how to improve the quality of care for very young children. We should act on our current knowledge to make sure that more kids get better quality care.
Under 5s – Early Learning Goals

Personal, social and emotional development

By the end of the foundation stage, most children will:

- continue to be interested, excited and motivated to learn;
- be confident to try new activities, initiate ideas and speak in a familiar group;
- maintain attention, concentrate, and sit quietly when appropriate;
- have a developing awareness of their own needs, views and feelings and be sensitive to the needs, views and feelings of others;
- have a developing respect for their own cultures and beliefs and those of other people;
- respond to significant experiences, showing a range of feelings when appropriate;
- form good relationships with adults and peers;
- work as part of a group or class, taking turns and sharing fairly, understanding that there need to be agreed values and codes of behaviour for groups of people, including adults and children, to work together harmoniously;
- understand what is right, what is wrong, and why;
- dress and undress independently and manage their own personal hygiene;
- select and use activities and resources independently;
- consider the consequences of their words and actions for themselves and others;
- understand that people have different needs, views, cultures and beliefs, which need to be treated with respect;
- understand that they can expect others to treat their needs, views, cultures and beliefs with respect.

Communication, Language and literacy

By the end of the foundation stage, most children will be able to:
• enjoy listening to and using spoken and written language, and readily turn to it in their play and learning;

• explore and experiment with sounds, words and texts;

• listen with enjoyment and respond to stories, songs and other music, rhymes and poems and make up their own stories, songs, rhymes and poems;

• use language to imagine and recreate roles and experiences;

• use talk to organise, sequence and clarify thinking, ideas, feelings and events;

• sustain attentive listening, responding to what they have heard by relevant comments, questions or actions;

• interact with others, negotiating plans and activities and taking turns in conversation;

• extend their vocabulary, exploring the meanings and sounds of new words;

• retell narratives in the correct sequence, drawing on the language patterns of stories;

• speak clearly and audibly with confidence and control and show awareness of the listener, for example by their use of conventions such as greetings, 'please' and 'thank you';

• hear and say initial and final sounds in words, and short vowel sounds within words;

• link sounds to letters, naming and sounding the letters of the alphabet;

• read a range of familiar and common words and simple sentences independently;

• know that print carries meaning and, in English, is read from left to right and top to bottom;

• show an understanding of the elements of stories, such as main character, sequence of events, and openings, and how information can be found in non-fiction texts to answer questions about where, who, why and how;
• attempt writing for various purposes, using features of different forms such as lists, stories and instructions;

• write their own names and other things such as labels and captions and begin to form simple sentences, sometimes using punctuation;

• use their phonic knowledge to write simple regular words and make phonetically plausible attempts at more complex words;

• use a pencil and hold it effectively to form recognisable letters, most of which are correctly formed.

Mathematical development

By the end of the foundation stage, most children will be able to:

• say and use number names in order in familiar contexts;

• count reliably up to 10 everyday objects;

• recognise numerals 1 to 9;

• use language such as 'more' or 'less', 'greater' or 'smaller', 'heavier' or 'lighter', to compare two numbers or quantities;

• in practical activities and discussion begin to use the vocabulary involved in adding and subtracting;

• find one more or one less than a number from 1 to 10;

• begin to relate addition to combining two groups of objects, and subtraction to 'taking away';

• talk about, recognise and recreate simple patterns;

• use language such as 'circle' or 'bigger' to describe the shape and size of solids and flat shapes;

• use everyday words to describe position;

• use developing mathematical ideas and methods to solve practical problems.
Knowledge and understanding of the world

By the end of the foundation stage, most children will be able to:

- investigate objects and materials by using all of their senses as appropriate;
- find out about, and identify some features of, living things, objects and events they observe;
- look closely at similarities, differences, patterns and change;
- ask questions about why things happen and how things work;
- build and construct with a wide range of objects, selecting appropriate resources, and adapting their work where necessary;
- select the tools and techniques they need to shape, assemble and join the materials they are using;
- find out about and identify the uses of everyday technology and use information and communication technology and programmable toys to support their learning;
- find out about past and present events in their own lives, and in those of their families and other people they know;
- observe, find out about, and identify features in the place they live and the natural world;
- begin to know about their own cultures and beliefs and those of other people;
- find out about their environment, and talk about those features they like and dislike.

Physical development

By the end of the foundation stage, most children will be able to:

- move with confidence, imagination and in safety;
• move with control and coordination;
• show awareness of space, of themselves and of others;
• recognise the importance of keeping healthy and those things which contribute to this;
• recognise the changes that happen to their bodies when they are active;
• use a range of small and large equipment;
• travel around, under, over and through balancing and climbing equipment;
• handle tools, objects, construction and malleable materials safely and with increasing control.

Creative development

By the end of the foundation stage, most children will be able to:

• explore colour, texture, shape, form and space in two and three dimensions;
• recognise and explore how sounds can be changed, sing simple songs from memory, recognise repeated sounds and sound patterns and match movements to music;
• respond in a variety of ways to what they see, hear, smell, touch and feel;
• use their imagination in art and design, music, dance, imaginative and role play and stories;
• express and communicate their ideas, thoughts and feelings by using a widening range of materials, suitable tools, imaginative and role play, movement, designing and making, and a variety of songs and musical instruments.