



how to  
focus the  
distractible  
child

*Annabelle Nelson-Burford*

Return to  
Annabelle  
THANKS

## HOW TO FOCUS THE DISTRACTIBLE CHILD

by

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*To my father, Lee Nelson*

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## INTRODUCTION

This book came from the integration of a number of disciplines and areas of study in my life and experience that were at first quite separate. It is a synthesis of my formal training in special education, professional experience as a teacher trainer and college teacher, and my personal exploration of imagery, yoga, and relaxation techniques to enrich my life.

Several years ago I decided to put together my experience and knowledge of children with learning problems with my personal development through what we might call right-brain activities. As a result I started working with teachers at first in Oregon and later in Arizona to adapt my experiences to see if they would help children. The success of these adaptations has prompted the writing of this book.

I call the children in question distractible, because I think that is the most descriptive term. In special education the term that would fit most distractible children is learning disabled. However, the approach of this book is designed to meet the needs of all children, those that would be classified learning disabled and those children who seem a bit scattered.

One purpose is to dispel ideas about distractible children, which are not substantiated by current research in special education. There are a number of beliefs in the general populace that children make letters backwards because they have brain damage or that some children cannot pay attention because they missed the crawling stage. Chapter One describes the behavioral characteristics of distractible children and gives a history of labels used by

special educators to categorize these children, what treatments have been developed, and what current research says about the effectiveness of these methods.

Also in Chapter One, one technique from behavior modification, self-instruction or behavior rehearsal, is reviewed and proposed as an effective coping strategy for distractible children. This technique above other procedures from behavior modification is emphasized, because it teaches children a strategy to deal with the inability of focusing and concentrating attention.

Other coping strategies unfold through subsequent chapters in the book, always with the purpose of teaching children how to control and work with their attention. The strategies are imagery, relaxation techniques and yoga. The idea is to empower distractible children so that they can develop self-control. The book also reviews recent theories on the root of distractible children's problems. One theory deals with the lack of selective attention, one deals with the lack of impulse control, and one proposes an underactive neurotransmitter in the brain as the crux of the problem. These theories are tied to the coping strategies proposed.

Some information is also given on styles of processing information by the brain, explaining what is thought of as left brain and right brain styles. Distractible children appear to have a propensity for right-brain processing styles which includes divergent thinking, imagery, movement, and musical abilities. The notion that distractible children have a propensity for right-brain processing but cannot control it is discussed resulting in recommendations for education. A classroom environment which imposes left-brain information processing styles (language, linear thought) on these children is indeed an unfriendly environment and one that promotes failure.

My hope is that this book will prompt educators and parents to consider ways to make these children's nature of divergency a strength instead of a handicap.

*Annabelle Nelson-Burford  
Prescott, Arizona  
April, 1984*

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## CHAPTER ONE

### CHARACTERISTICS, LABELS, AND HISTORY

Distractible children act a certain way which is different from most other children. These actions, or behavioral characteristics, make them unmistakable.

The first and foremost characteristic is inattention. Distractible children do not pay attention during group discussions when the teacher is in front of the room asking students questions and responding to students' comments. Instead of paying attention, a distractible child will doodle on paper, gaze out the window, repeatedly drop and pick up a paper, engage a neighbor in conversation, squirm in the chair, or get up to sharpen pencils. Distractible children are also inattentive to teacher direction. Many times in elementary classrooms, teachers will give the class directions as a group, and then expect children to complete work independently. A distractible child does not follow through: instead of completion there is confusion. Because of inattentive behaviors, teachers and parents describe these children as lazy. It appears that the children make no effort to apply themselves to their work.

The second characteristic is that these children may actually look different than other children. They have an unkempt appearance and their desks look messy. They may shy away from having others touch them, and appear uncoordinated.

Engaging in behaviors that interfere with learning is the third characteristic of distractible children. Since these

children are not succeeding academically, they create diversionary tactics. One tactic is to act out. Aggression gives a momentary feeling of power and separates a child from the situation of failure. However, in the long run, being rough with other children or resistant to authority compounds the problem of distractibility. Another tactic is to become withdrawn. This is the polar opposite of acting out, but it has the same net effect of removing a student from a learning situation. By becoming withdrawn, and avoiding teachers and other students, distractible children avoid facing situations where they fail. A final avoidance tactic is responding to teacher's questions with random guesses. Distractible children often give wrong answers, and they soon learn that there is no reason to try too hard. They will usually come up with the wrong answer anyway. The children have learned a coping strategy based on their past failure. If they try, they expend effort only to produce the wrong answer. If they guess without trying, they can avoid the situation, since teachers may tell them the correct answers. All three tactics, aggression, withdrawn behavior, and random guessing, set a pattern to create increased academic failure.

Distractible children certainly do have positive features to balance the frustration teachers and adults experience in working with them. They have normal or above normal intelligence. They are characterized by an uneven level of development. For example, a child may excel in reading and fail in math. Or a child may be quite good at comprehending what is heard, but cannot comprehend what is read. These children often seem to "sense" things, or to be very empathetic with others. Many are friendly and affectionate. Some have a gift for the visual arts, dance, or movement.

The behavioral characteristics of any given distractible child are unique. No distractible child would have all the characteristics reviewed above. However, the key to pinpointing such a child rests with the characteristic of being unable to sustain attention to listen or to complete a task.

### THREE VIGNETTES

Jill is a distractible child. She is 9 and is in fourth

grade. She is attractive and affectionate. She can express herself verbally very well. She will tell a classroom visitor all about her activities the day before. At first, an observer would guess that Jill has no problem in school. Once work begins, that assumption changes. While other children work, Jill fidgets, drops pencils, sharpens pencils, and wanders the room. As long as the teacher is next to Jill and talking to her, things go smoothly. Jill answers the teachers questions correctly and follows instructions. But when the teacher leaves, Jill stops work. She tries to engage other children in conversation, and at times she interrupts the teacher when the teacher is with another student. Jill's desk is disorderly. During group discussions, Jill raises her hand frequently, but her comments do not fit the content of the discussion.

James is in second grade. He is eight. He is a nice looking child and is well groomed. Careful examination shows that his belt is very tight, as if he wants the belt to tell him where his body starts and stops. He shies away from having anyone touch him. James acts tough. He says that failing a test does not bother him; he has more important things to worry about. When the teacher asks him a question, James gives an immediate, but often incorrect, response. When the teacher repeatedly asks James for a response, he becomes belligerent. He often spends long periods of time in the principal's office. He does excel at athletics.

Sonia is five and is in a kindergarten classroom. She is a dainty child, very gentle and very quiet. The teacher calls her withdrawn. Sonia does not seem to have a sense of place, or a sense of herself. She often seems to be looking off into space. When the teacher asks Sonia a question, she may or may not respond. When the teacher gives an instruction to the group, it is as if Sonia does not hear. For example, when it is time for recess, Sonia will still be sitting at her desk while the other children are already lined up at the door. Sonia makes quite beautiful drawings. When one of the class members is hurt, Sonia will comfort her fellow student, and sometimes cry in sympathy.

These three vignettes show the uniqueness of each individual distractible child's problems. The examples also underscore the frustration teachers experience. Distractible children are a problem because they do not learn like other children. Teachers' standard practices do not work which creates frustration for teachers and failure for students. The main problem is that the children do not spend enough time interacting with the medium of learning—the teacher's face and voice, and the book or paper in front of them. Even though these children have normal intelligence, techniques that work with most children are ineffective. It does not work to tell distractible children to try harder, or to encourage them to more productive work by making them stay in for recess.

These children do not have the same skill as others in taking in sensory information. The way they perceive through their eyes, ears and other senses is normal, but they do not integrate the information as others do. It is difficult for them to pick out what is important and ignore what is unimportant. They attend to all the information their senses pick up, instead of ignoring extraneous information. This differs for each distractible child. Some can integrate stimuli they hear, but cannot do this for what they see. Others can integrate what they see, but not what they hear.

Teachers become understandably frustrated with distractible children. After a time of working with them, teachers want an expert to come in and either fix the child, or transfer the child to a classroom with more individualized help. Often teachers form a set of expectations that a child does not learn and this influences how the teacher treats a child. Instead of looking for a child's positive qualities, the teacher looks for and pays attention to the qualities that interfere with learning. "Oh, Oh, there goes Sonia, James, or Jill, they're looking out the window again, instead of working."

The most disturbing thing about distractible children is that nothing seems to work.

## **SPECIAL EDUCATION AND DISTRACTIBILITY: A HISTORY**

Special educators have made attempts at diagnosing the distractible children's problem in order to develop effective intervention strategies. In the late 1960's it became clear to educators that there was a group of children who did not fit into the groups of learners special educators usually worked with. They were not mentally retarded. (They were not children that when given an intelligence test would score markedly below the norm.) They were not emotionally disturbed. (Emotionally disturbed children are not retarded, but their learning is impaired by serious aggression, profound withdrawal within themselves or other emotional disturbances.) Distractible children were not hearing or vision impaired either. (Distractible children's eyes and ears take in sensory information accurately.) Neither were distractible children physically handicapped as are children who are born with cerebral palsy.

Even though distractible children did not fit into any of the above categories, they were a problem. They did not learn. It was puzzling because they had at least normal intelligence. These students defied classification. They were mystery children.

Over the years different labels have been tried out in an attempt to define distractible children—brain damaged, minimally brain dysfunctional, hyperactive, and most recently, learning disabled. The following history will trace how these labels came about. Usually the label paralleled what special educators thought caused the learning problem.

### **MEDICAL MODEL**

#### **MYTH ONE: DISTRACTIBLE CHILDREN ARE BRAIN DAMAGED**

At first these children were thought to be brain damaged because along with distractibility came some perceptual confusion. For example distractible children would sometimes reverse what they perceived. If they were asked to read the word "was" they might say "saw", or if they were to

write a "2", they might make it turned around.

After World War II, a physician, working with wounded soldiers noticed that servicemen with brain injury reversed images, just like distractible children<sup>1</sup>. The assumption was made that these children must be brain damaged, too, since they had the same behaviors. It was assumed that because of some brain injury, distractible children's nervous systems were not functioning correctly.

A series of educators and psychologists developed exercises to help children "rewire" their nervous systems so that they would function correctly. There have been a number of instances in which severely brain damaged people have been disabled and later retrained themselves to overcome the disability. This has occurred frequently, for example, when people lose the ability to speak and then later regain it. Physiologically, it is not clear what actually happens with the brain. But there is some evidence that undamaged areas of the brain can take over the functions controlled previously by damaged portions.

Since distractible children's behaviors showed perceptual and motor problems, special educators attempted to give them practice in perceptual and motor skills to correct problems resulting from what was assumed to be brain damage.

Special education was initially influenced by physicians. When children were not developing normally, parents would often take their children to doctors to find out what was wrong. Teachers often sought doctor's counsel as well. Physicians attempted to apply the same strategy of treatment for learning problems as they used for treating diseases and injuries. They looked for a cause and then assumed that a treatment would fall in place, like finding a vaccine or setting a bone. Educators adopted this approach as well. The strategy of diagnosing a cause and then prescribing a treatment is called the medical model. Pinpointing distractible children as brain damaged was attractive since it fit the medical model. The "cause" hypothesized to be a brain injury hopefully would lead to a treatment.

The next development in labeling was that distractible children were given the name of minimal brain dysfunction.

A brain injury could not be found, but since children showed perceptual processing problems, the neurological system must have some subtle impairment that affected perceptual processing. Minimal brain dysfunction meant that it was not clear where a brain injury was located, but it was assumed that there was some impairment since there were perceptual and motor problems. In time the assumption that there was impairment was also rejected, because no physiological evidence was found of the dysfunction.

The attractiveness of classifying these children as brain injured or as having a minimal brain dysfunction soon evaporated. This was primarily because physicians could not find a brain injury or dysfunction in all these children. The medical model did not really fit education. A specific diagnosis which would lead to a treatment suited for that diagnosis did not appear.

As a result these children acquired a new label, learning disabled. In effect, this label was a break from the medical model, since it did not imply a cause of the disability. It just meant that children were not learning, and that children did not fit into special education classifications such as mentally retarded, emotionally disturbed, visual or hearing impaired, or physically handicapped. Learning disabled children did not learn and the medical profession did not know why. The term specific learning disability was used since most learning disabled children performed in some areas very well, but failed in other areas. It was assumed that there was some very specific perceptual processing deficit that interfered with learning.

## **TREATMENT HISTORY**

### **MYTH TWO: MOTOR AND PERCEPTUAL REMEDIATION WILL "FIX" DISTRACTIBLE CHILDREN**

The treatment of distractible children paralleled the label that was used to define their problem. When they were thought to be brain damaged, the treatment focused on motor and perceptual retraining. The following section reviews treatments developed by four educators who worked during the 1960's to accomplish retraining. These educators

assumed that children's learning problems were the result of brain damage or a minimal brain dysfunction.

One of the first educators to develop a treatment for children assumed to be brain damaged was Newell Kephart. He worked at Purdue University and developed a test to tell the exact motor or perceptual problems of distractible children.<sup>2</sup> During the test children were asked to perform a number of motor tasks including skipping, jumping, and copying figures at a chalkboard. After children's problems were pinpointed by analyzing the test results, physical exercises were prescribed for children. Much of Kephart's work focused on teaching children to integrate both sides of their bodies. Many children Kephart worked with had what he called midline problems, meaning they could not work with their right hand or arm on the left side of the body.

Working at the same time as Kephart was C. H. Delacato. Delacato believed that all children grow through normal stages of motor development.<sup>3</sup> By motor development, Delacato meant actions children do with their hands, legs, and body. Young infants learn to reach out and grab objects, and then to pull themselves up to a standing position. They learn to balance, walk, run and jump. Delacato hypothesized that children with perceptual and motor problems had not progressed through all the normal stages. He devised a program to help children regress to the stage they missed, practice it and then hopefully go on to the next stage. Delacato is most famous for patterning exercises which simulated crawling. A child would lie on a table with five people holding the legs, arms, and face. The child's limbs were then moved as if the child were crawling.

Both Kephart and Delacato worked with children by giving them practice in motor skills. Kephart clearly saw the children he worked with as brain damaged. His aim was to give practice in motor skills in areas of deficiency to reintegrate the brain network. Delacato believed that children's brains were not developed because they had missed important stages of motor development. His aim was to repattern the brain network so that it functioned correctly. Both Kephart and Delacato felt that if the parts of the brain that controlled motor performance were remapped, then child-

dren's academic performance would improve.

In a slightly different approach, Marianne Frostig<sup>4</sup> attempted to give children practice on perceptual skills. She devised a test to see if children could complete skills that she called visual-perceptual skills. These included copying forms and organizing shapes in space. After a child was tested, the perceptual skills at risk for that child were pinpointed. Then the child would be asked to complete exercises in a curriculum that Frostig had devised.

Samuel Kirk<sup>5</sup> developed a test that combined perceptual skills with language skills. It was called the Illinois Test of Psycholinguistic Abilities (ITPA). It had a number of subtests and tested things like auditory sequential memory: ("Repeat for me what you hear: 6-4-3-2.") and visual association: ("What goes with this picture?"). After this test was administered, testers created a profile of what perceptual and language skills were strengths or deficits for children. Special education teachers would then create practice for the deficient skills. For example, if a child had poor visual sequential memory, then a teacher might present the child with a series of color chips in a specific order, asking the child to study the order carefully. Then the chips would be taken away, and the child would be asked to replicate the order. One skill most distractible children have difficulty with is auditory sequential memory. This was documented in the 1970's by educators using the ITPA, and has been supported recently with evidence that learning disabled children have selective auditory attention deficits.<sup>6</sup> This supports the assumption of this book, that focusing on incoming stimuli, in this case auditory stimuli, is the basic problem with distractibility.

There were other educators and psychologists who developed tests and remedial activities for distractible children, but the treatments outlined above are representative of the philosophy for dealing with distractible children in the 1960's and 1970's. At first treatment was designed to rewire children's brains by giving them motor practice. This progressed to rewiring children's visual and language skills by giving them practice in those areas which were pinpointed as a deficit.

Some of Kephart, Delacato, Frostig, and Kirk's tests and treatments are still used. But more than the specific treatment, the basic philosophy that these educators proposed is still accepted by teachers. Many teachers believe that children cannot learn because they missed the crawling stage or that practice in perceptual or motor skills is necessary.

Over the years a number of authors<sup>7</sup> have carefully reviewed research that has been done to test the effectiveness of Kephart, Delacato, Frostig, and Kirk's work in helping distractible children. These authors found that sometimes teachers could be effective in teaching the skills that would be diagnosed as deficient. For example, if a teacher used Kephart's test and found that a child had midline problems, then if the teacher gave the child practice in working with the left arm on the right side of the body, when the test was administered again, the child would improve. However, this improvement was not always the case. Sometimes practice in the skills did not improve the student's performance on the motor and perceptual motor tests. Another more significant finding was that, in general, the motor and perceptual remediation did not improve children's performance on academic tasks in school. The authors conclude that it is high time to lay Kephart, Delacato, and others to rest. Further, it is time to reject the assumption that the brain can be rewired through motor and perceptual practice.

The medical model does not work in helping distractible children. The approaches devised to rewire children's nervous systems, which were aimed at fixing the cause of the distractible child's problems did not remedy the problem and then allow students to improve in school. The child's nervous system was not made whole again. Distractible children did not become like other children as a result of the motor and perceptual remediation. Children may improve on the perceptual-motor skills in which a teacher is providing training, but this does not translate into "cured" patients who can then function well in the classroom. Giving a student practice in remembering a sequence of color chips, or practice crawling will not help the child in the classroom or at home. The practice does not create increased ability to use atten-

tion to learn letter names, to watch the board when a teacher is presenting a math problem, or to find the correct problem on a piece of seatwork.

### **MYTH THREE: DRUGS AND BEHAVIOR MODIFICATION ARE LONG TERM SOLUTIONS FOR DISTRACTIBLE CHILDREN**

A common treatment for distractibility which began in the late 1960's and continues today is drug therapy. The Association of Children with Learning Disabilities reports that 65% of learning disabled children are, or have been, on drugs prescribed by physicians. These drugs are usually reserved for distractible children who are very active and sometimes called "hyperactive".

Ritalin or amphetamines are prescribed. Even though these drugs act as stimulants for most people, they have a calming effect on distractible children. Children's ability to stay seated and remain quiet significantly increases as a result of the use of the drugs. However, there is little evidence<sup>8</sup> that children's schoolwork actually improves. Children's capability to sit still while under the effect of drugs increases, but this does not mean that they learn more, nor does it mean that the children have learned skills to cope with their attentional problems once the drug influence wears off. Drug therapy suppresses distractibility but does not increase student's learning capacity or teach concentration.

Unlike drug therapy, behavior modification is designed to teach skills and not to suppress distractibility. The approach of behavior modification is to provide rewards for correct classroom behavior both for completing academic work and paying attention. The underlying assumption of behavior modification is that behavior is influenced by the events that immediately follow the behavior. For example, if you smile at someone, often that person will smile in return. This will increase the likelihood that the next time you see someone you would smile. Thousands of such events happen to each of us, markedly affecting behavior and teaching us how to behave.

For the distractible child, many times the teacher will

respond each time the child wanders around the classroom or does not pay attention. This teaches the child that the more "off-the-wall" a behavior is, the more teacher attention that will follow. A behavior modifier would look at a distractible child and examine what happens in the child's environment right after the distractible behavior. If the child gets up and starts moving around the classroom, what happens? The teacher reminds the child to sit down. After the distractible behavior, the child is rewarded by the teacher's attention. When a student cannot find his or her place on a sheet of paper, the teacher comes and points to the place. Again the student gets teacher attention for distractible behavior. A behaviorist would say that this sequence is actually teaching the child to be distractible. In setting up a behavior modification system, the purpose would be to remove rewards for distractibility and instead deliver rewards for correct classroom behavior.

This can be done in a number of different ways. One example is derived from a tutoring program in reading. The reading book used during the tutoring sessions was designed for the student to fill in answers to questions and missing parts of words. To create rewards for correct behavior, the student was given a point for each sentence completed correctly. The student colored in earned points on a racetrack marked off into spaces. When all the spaces were filled, the student earned a model to be put together.

Behavior modification can be used directly on schoolwork, as described in the example above, or a system can be set up to reward paying attention in class. For example, a teacher can set a timer to ring at variable times, averaging every five minutes. This means the teacher would set it to ring after one minute, then after six minutes, and then after four minutes. Students can never exactly pinpoint when the timer will ring. The teacher looks up at the students when the timer rings. If a given student is paying attention, looking at the work, or looking at the teacher during a presentation, the teacher marks a point on a card on the student's desk. If the student has earned a certain number of points, he or she can go to recess early.

The strength of a behavior modification program is

that it deals directly with distractibility instead of attempting to "fix" the child. Behavior modification breaks from the medical model mold. A behavior modification program in effect ignores the cause and tackles, head on, behaviors that are creating problems. The usual strategy, described above, is to give rewards for correct behavior and ignore those behaviors which distract from learning.

Behavior modification can be a positive source of encouragement for distractible children. We have said earlier that teachers form a set of negative expectations for distractible children. Teachers start looking for what will fulfill their expectations instead of noticing the correct things a student is doing. The longer a teacher works with a child, the less patient a teacher will be. An effective behavior modification program can turn this situation around, since the teacher must notice the correct things the child is doing to deliver rewards. This can work to remove the negative stigma from the student.

Some object to behavior modification programs, pointing out that they are mechanistic or non-humanistic. The criticism is that such programs reduce a student to a thoughtless, spiritless organism responding only to external rewards. The counter argument is that it is very humane to use an approach, when no other approach is working, to teach a distractible child to be successful in a setting where he or she was previously failing.

From a practical standpoint, the main question with behavior modification is what happens when the rewards are removed? Once the awards are no longer available, will the student maintain accurate academic performance or increased attention to group presentations and seatwork? As with drug therapy, behavior modification affects may disappear once withdrawn. Drug therapy and behavior modification programs can help a distractible child as long as they are in force, but when they are removed, what happens to the distractible child?

Behaviorists do deal with this problem, and there are a number of procedures that can be used to teach a child to carry on the correct behaviors once the rewards are removed. For example, a program may fade away. Remember the

race car track. The student colored in a square for each reading problem read correctly. To teach a child to do correct reading without rewards, more and more reading would be required for the reward. At first the child would have to read four or five sentences to color in a square, and then the entire page of reading would be required. Eventually, there would be no reward other than the teacher's praise, or maybe a sticker, or possibly a certificate for a job well done.

One technique from behavior modification designed to teach new behaviors which does not always use rewards is called behavior rehearsal or self instruction. An example is a distractible child who has problems finding materials needed for a reading activity, and then finding where the reading group is being held. A behavior rehearsal procedure would have an adult take the student through the steps necessary to find materials and the reading group, one by one, actually "rehearsing" the student as you might rehearse someone for a play. The rehearsal would continue until the student could complete the steps independently.

Behavior modification definitely has strengths in coping with distractible children's problems. It does not fall into the trap of trying to fix the nervous system with motor and perceptual skill practice, nor does it merely suppress distractible behaviors like drug therapy. Behavior modification directly teaches distractible children skills that will help with their distractibility. It also makes attempts at helping a student maintain these skills after rewards are removed.

The weakness of behavior modification with distractible children is that it uses external rewards to teach behavior, and often does not leave children with a strategy for dealing with their basic problem—how to focus their attention.

#### **SELECTIVE ATTENTION THROUGH SELF-INSTRUCTION**

Alan Ross, writing in 1976<sup>8</sup>, tackles distractible children's attentional problem. Ross states that many people call distractible children impulsive.

*... youngsters are apparently unable to keep their own impulses under control in order to cope with situations in which care, concentrated attention, or organized planning are required. They tend to react with the first idea that occurs to them. . . I have come to think of (the deficiency) as the inability to 'stop, look, listen'.<sup>9</sup>*

According to Ross, this problem of impulsivity is another way of saying that the child cannot selectively attend. A student has not developed the ability to pay attention to the necessary and relevant features in the environment to respond appropriately.

Think for a minute what might be happening in an elementary classroom. A child is sitting at a desk by a window. It's warm outside so the window is up. Noises and fragrances come drifting in the window. The janitor is in the hall washing the floor. Mopping and movement noises accompany the work. The child's view of the classroom also includes a lot of visual stimulation. Think about all of the things there are to see: the bulletin board, children and teachers' faces, marks on the chalkboard, papers on the student's own desk, and erasures on the floor. If a student has difficulty picking and choosing from all the incoming stimuli to pay attention to only a small portion of them that are necessary to complete a task, then this student has difficulty with what Ross calls selective attention.

Selective attention is the ability to screen incoming stimuli, sights, noises, feelings, and movement, and focus on only what is necessary. For those who can use selective attention, it is not a conscious choice, it is automatic. When we are small infants, we react on impulse. When it is cold, we cry. When we are fed something sweet, we smile. When someone takes something away from a two-year-old, the child has a fit, screaming, "Mine, mine, mine." The environment presents stimulation and we react impulsively. But as we grow we normally and naturally develop the ability to think before we respond, and to not be at the beck and call of instincts and impulses. At first it probably results from

someone telling us, like our parents, to stop before we respond. Adults remind children of the consequences of their actions and alert children to those things that are important to warrant attention. After awhile, it is not a conscious decision to weigh incoming stimuli before we respond, we do so automatically. We develop the natural and automatic ability to hone in on only what we need or want to perceive. We can screen out distractions.

Tarver and several other special educators<sup>10</sup> report evidence that distractible children do not naturally develop this ability to screen out distractors. They do not have as high an ability to use selective attention as other children.

If distractible children are deficient in selective attention, then the best way to help them is to teach them coping strategies. A coping strategy could help the distractible child sift the incoming stimulation into relevant and irrelevant piles, and think, "Aha, I'm going to pay attention to this." By teaching a coping strategy, educators would be saying to distractible children, "Your attention works differently than others, here are some ideas to make it work better for you."

For the most part the procedures we have reviewed from special education did not teach a coping strategy for selective attention. Kephart had children walking on balance beams. Delacato had children crawling. Frostig had children copying shapes. Kirk had them repeating numbers. None of these procedures taught children a strategy for how to focus their attention while they engaged in these activities. No one said, "This is what you can do while you are copying this form to help you figure out what to pay attention to". It is possible that through repeated practice, or trial and error, some children figured out their own strategy. But this could not be counted on to happen in every case.

Drug therapy does not teach a coping strategy to those with attentional problems. A Ritalin capsule does not wink at a child and divulge secrets for attending to relevant features of a reading lesson. In the last analysis, behavior modification does not either. Children are prompted to correct behavior with the strength of rewards. Because children want the reward, they may be more motivated to figure out their

own coping strategies. But strategies are not taught directly.

The one procedure from behavior modification that is a coping strategy for how to focus attention is behavior rehearsal. With this procedure the adult actually tells the student what to pay attention to while going through the steps in the procedure. In behavior rehearsal, students are often taught to talk aloud to themselves as they practice the steps. This enhances the value as a coping strategy, and it then can be called a self-instruction strategy.

A normal thing to do when one is rattled is to talk aloud to oneself. Talking aloud increases the sensory input. We hear ourselves talking as we are trying to focus attention. Talking aloud blocks out extraneous noises that may distract us. Most people find that they talk aloud to themselves when they are having difficulty figuring something out. It works. A large number of educators<sup>11</sup> tried this technique to help distractible children pay attention. Self-instruction, as it is called, works well. Children can be taught to make letters better, approach learning tasks more carefully, and improve their performance on tests and multiple choice questions through self-instruction.

The best gift for a distractible child is to be taught control of impulses and attention. Think what it must be like to be barraged by sensory events that cannot be integrated. In a sense, a distractible child is awash in a sea of noises, sights, and sensations without a method for steering. The job of teachers and parents is to help these children work with their attention so that they can use it for their benefit. This can happen by teaching them coping strategies to focus attention. Talking aloud is one way. Several other strategies will unfold in subsequent chapters.

## A FEW WORDS ABOUT LABELS

Some of the labels in special education that have been used in reference to distractible children are brain damaged, minimal brain dysfunction, learning disabled, hyperactive, and dyslexic. All of these are overlapping circles and the distractible child may fit in one of these categories or may not. Brain damaged is for the most part

no longer used. Historically, brain damaged referred to children with some type of perceptual processing problem who were also very distractible. Minimal brain dysfunction replaced brain damage, since physicians could not pinpoint a brain injury. Then as the medical model faded in popularity in special education, the label learning disabled replaced the term minimal brain dysfunction. There are still some educators and physicians who think that there is brain damage involvement, and they may still use the minimal brain dysfunction term. However, for the most part if you talk to professionals in special education they will use the term learning disabled. This implies a specific learning disability. These children may perform normally or even on a gifted level in some areas while failing in others.

If you have a student or son or daughter who you think is distractible, it does not mean that he or she is learning disabled. They may or may not be. If the child that you have in mind is doing well in school, there would be no reason to find out if he or she should be classified as learning disabled. But you may want to use some of the procedures outlined in this book to help with distractibility.

The terms hyperactive and dyslexic are not generally used in special education today, even though there are a few physicians, parents, and educators who may use these terms. Hyperactive merely means that children move around a lot—a whole lot. Some have the idea that these children are brain damaged, but there is no firm evidence to support this. Dyslexic means that children cannot learn to read. Usually children who are called dyslexic have very, very serious difficulty learning letters, letter sounds, and combining letter sounds to decode words. Some maintain that these children are brain damaged. Sometimes these children show perceptual processing problems, most notably reversing or turning letters around. People think that dyslexia means that students have some very rare disease. They do not. They have trouble learning to read. Most special educators use the term learning disabled for children previously called dyslexic.

## CHAPTER TWO

### IMAGERY

Imagery is a thought process of which all humans are capable. Some psychologists say that imagery is like a sensory experience without external stimulation, meaning that if we close our eyes and see cars passing by, it would be just like we were actually looking out of a window and seeing the cars. Other psychologists say that the process of imagery is one of internal scanning. We scan through the library of images stored in our minds and find the one we want. When talking about imagery, the phrase "the mind's eye" is used. We can create pictures in our mind's eye and the pictures may be accompanied by sights, sounds, and feelings of motion. The sensations are not only visual, but can include other senses as well. We sometimes create images with our own will, at other times images occur spontaneously. People differ in how well they can create images and how vivid the images actually are.

During Greek and Roman times, the idea of imagery was very central to understanding human thinking. Plato hypothesized that all thoughts were derived from central absolute images. Early in the twentieth century, psychologists veered away from dealing with imagery, primarily because they were attempting to make their study a science. There is no scientific way of studying imagery, since it is a very private experience. If someone reports having an image, there is no way to check if the image actually occurred, since there cannot be external verification.

During the 1970's, however, psychologists' interest in imagery increased. Evidence from split brain research demonstrated the importance of the imagery thought process, and psychologists and educators discovered the benefits of using imagery as a tool to increase memory, learning and mental health.

### **SPLIT BRAIN RESEARCH: WE THINK IN TWO DIFFERENT WAYS**

We have two hemispheres in our brain, a right one and a left one. There is a bundle of nerve fibers that ties these two hemispheres together and sends signals back and forth. The bundle is called the corpus callosum and consists of 200 million nerve fibers. (Much of the material reported in this section is based on information written by Springer and Deutsch<sup>1</sup>.)

Work by physicians demonstrated that different areas of the brain control different functions. This was discovered when physicians noticed changes in people's abilities after an accident which resulted in brain damage. For example, damage to the left hemisphere could result in speech loss. Another method used to discover what part of the brain controlled which behaviors was stimulating areas of the brain with electrical current during brain surgery. Neurosurgeons did this before making incisions to make sure that they did not harm a patient's capacity to use language. This procedure resulted in pinpointing the areas of the brain that controlled language. There are other recently developed technologies used to correlate behavior with the area of the brain that controls that behavior, like monitoring increased blood flow in sections of the brain following certain behaviors.

The two sides of brain have different ways of processing information. The left hemisphere controls the right side of the body and primarily controls language. This hemisphere processes information in a logical, linear, analytic fashion. This means that the processing examines information piece by piece, case by case, and then puts it together. This type of processing focuses on one thing at a time and is called convergent thinking.

The right hemisphere primarily controls spatial skills and musical ability, and processes information in a holistic, synthetic way. This means that instead of looking at information in a piece by piece fashion, the right hemisphere takes in an array of information all at once and responds as a result. This type of holistic processing is important for spatial skills involved in movement. For example, a young girl who is working on the balance beam, ready to flip off in a dismount, does not break her action down piece by piece as she executes it. It is important that she perceive the whole situation as she executes the move. She needs the matrix of all the space around her to make movement decisions. The type of thought process characterized by the holistic right hemisphere to entertain a number of thoughts at once, even though unrelated, is called divergent thinking.

More information on the right/left brain difference in processing was prompted by a surgeon's work. William Van Wagenen<sup>2</sup> experimented with a new operation in an attempt to help people suffering from epileptic seizures. The operation was to cut the Corpus Callosum. At first, this procedure did not appear to harm the patients. They acted pretty much as usual after the operation. However, the operation did not correct the seizures. In time, however, it became clear that these patients neurological processing had radically changed. These patients became known as "split brain" individuals, and they became a rich source of information about how our brains process information and how the two hemispheres function.

The following is an example of what happened when one split brain patient, a woman, was tested. She was seated in front of a screen with a small black dot in the middle. A picture of a cup was flashed briefly to the right of the dot. This means that it was perceived by the left hemisphere. The patient said she had seen a picture of a cup. Next an image was flashed to the left of the dot. It was designed to be perceived by her right hemisphere. It was a picture of a spoon. She said that she saw nothing. Then she was asked to reach under a screen and choose the object she had just seen. She felt each object with her left hand and chose the spoon. When asked what she was holding, she said she was

holding a pencil.

In this experiment it is clear that the right and left hemisphere were processing information differently. Since the Corpus Callosum had been cut in this patient's brain, the two hemispheres were not sharing information. They were not communicating. When the experimenters showed the left hemisphere the picture of a cup, the patient could say in words what it was that she had seen. The left hemisphere primarily controls language. When the experimenter showed the right hemisphere the picture of the spoon, her right hemisphere could not answer in words. She could, however, answer through the movement of her hand, since the right hemisphere primarily controls spatial abilities, including movement. When asked what the left hand had touched, the patient could not say because the spatial and language side of her brain were not speaking to one another.

## IMAGERY AND THE RIGHT HEMISPHERE

Not all people have their language controlled by the left hemisphere nor their spatial abilities controlled in the right hemisphere. There is some evidence that women to some degree have both kinds of information processing distributed across both hemispheres. Also, some physicians hypothesize that left-handed people have these abilities distributed across both hemispheres as women do. However, for most people the divisions of the two hemispheres hold.

It is important to note that even though the hemispheres differ in how they process information, people use both hemispheres for most thoughts and actions. They work together with different strengths. Therefore, it is really a misnomer to talk about someone being right or left brain. The ideal is to integrate hemispheric functions. There is even some recent data which indicates that imagery may be the domain of both hemispheres<sup>3</sup>. Speaking of the two hemispheres and their different information processing styles is a model for enhancing the understanding of the brain. In all cases of processing, however, integration across the two hemispheres is essential.

The left brain excels at thinking in words and think-

ing along a straight line. The right brain excels at thinking in spaces and thinking of a number of things at once. The capacity to think in pictures or images is also the territory of the right hemisphere. This is documented by an increase in electrical activity in the right hemisphere when individuals think in pictures.

All people have the ability to think in images. It is as normal a process as thinking in words. Young children's interior worlds are rich in images. Gordon Allport,<sup>4</sup> a psychologist, proposes that images are a useful tool for young children to learn about the world around them. Images are used to try out various possibilities. For example, if a child is trying to get a cup down from the table, he might try out several possible actions in his mind.

Imagery as a thought form has a number of other advantages. Imagery is directly linked to creativity. The right brain mode of processing is divergent in nature. When we think in images this is not necessarily logical, dealing with cause and effect, nor do the images follow a linear sequence. They come in a scattergun fashion—one here, one there, not necessarily related.

Thinking creatively means to think of something in a new way, or to put seemingly unrelated concepts together in a way no one has thought of before. The more ideas produced, the more apt something new will be created.

In the business world, there is a process called brainstorming which is used to seek a creative solution to a problem. The process goes like this. The problem is stated, and the group who is charged with coming up with a solution starts generating ideas. The one rule of the process is non-evaluation. No one is allowed to criticize what another one suggests. The more farfetched the suggestion the better. Many times, the best notions emerge when everyone is too tired to think logically. A brainstorming session is designed to encourage divergent thinking. This is right brain thinking, the same side of the brain linked with thinking in images.

Thinking creatively requires left brain thinking as well. Probably in every endeavor, whether it be in thinking convergently or divergently, thinking works optimally when both sides of the brain are working together. The implication

for education is that schools would be wise to give students practice in both types of information processing, and not only emphasize one kind.

Once children enter school, however, there is little emphasis on right brain processing. Instead of imagery and holistic, divergent thinking, the emphasis is on language and analytic, convergent thinking. A neurosurgeon, Joseph Bogen,<sup>5</sup> and a psychologist, Robert Ornstein,<sup>6</sup> criticize American and Western schools. They claim that the emphasis on language and analytic thought is at the expense of creativity. Once children reach school, teachers actively discourage thinking in images, and thinking divergently.

Bogen and Ornstein recommend that schools provide as much instructional support for the right as the left hemisphere. This would mean that art, music, handicrafts, and physical activity and movement would be as important as reading, writing, and arithmetic. They also recommend that as much emphasis be placed on thinking divergently, as there is on thinking logically. Teachers would then not only teach children to think in a careful, logical way, but also would encourage children to think in images.

Bogen and Ornstein's recommendations are consistent with the thoughts of developmental psychologists. Jean Piaget<sup>7</sup> has painstakingly documented the way children view the world, and the way they process sensory information. Piaget found that children's cognitive development progresses through four stages. During the first stage, when children are infants, they are primarily reacting to the world and trying out their senses. During the second stage, at about the age of two, children start acting with purpose to make changes on their environment, as opposed to primarily reacting to it. Children also learn how to use symbols during this stage through language acquisition and role playing. But children at this age are not thinking logically and are fooled by what they see. For example, a three-year-old child will think a row of pennies has more in it in comparison with another row if the pennies are spread out farther, even though there are the same number.

During the third stage, at about the age of seven, children become capable of logical thought but they need

objects to help them accomplish this. In order to figure something out, children need to move things around in their environment. During the last stage, after the age of 12, most children can use logical thought without any outside help. They can make logical deductions without manipulating concrete objects. This is thinking abstractly.

According to Piaget's schema of children's development, it would make a great deal of sense to encourage imagery in children. Most children before the age of 12 do not think in an abstract, logical manner. Giving children a strong exposure to imagery would teach them a tool to make a transition from using logic in the material world to using logic in an internal abstract manner.

Creating instructional activities that teach imagery follows children's natural development. In the past, teachers may have thought it was necessary to stamp out daydreaming, fantasy and make-believe, thinking that it would interfere with learning. But the opposite is true. Imagery and divergent thinking will not interfere and will markedly enhance learning.

For children to function optimally and realize all of their potential, it is essential that teachers and parents encourage the functioning of both hemispheres. Of course, children need to learn to read and compute, and to think in a careful step-by-step fashion. Added to this must be activities to encourage imagery and visualization. The following sections of this chapter explain how imagery can assist learning.

## IMAGERY CAN AID MEMORY

Imagery can be a tool for memory. In ancient times, Greek and Roman orators used imagery as a method to memorize. The way this was done was to pair a picture or a sensory experience with a word that was to be remembered. There are several methods for doing this. Mnemonics is the name given to the special systems aimed at assisting memory.

One system is called the number-rhyme system.<sup>8</sup> A rhyming word is assigned to each number. For example, bun is one, two is shoe, three is tree, four is door, and five is hive.

These rhyming words are used as a cue for each word that is to be memorized. Since the rhyming words also stand for the order (e.g., bun is always paired with the first word to be learned, and shoe will always be paired with the second word), the words give a framework for memory.

To exemplify this, imagine that the first five words of a list are table, feather, cat, leaf and student. Probably it would not be much of a task to memorize these words by themselves. But if these were the first five words of a list of twenty to be memorized, then a system like the number-rhyme would be necessary.

To memorize the words, an image would be created in the mind to link the rhyming words with the word to be memorized. The first set would be bun-table. An image to link these two would be a picture of a bun on top of a small table that is about to break under the weight of the bun. An image to link the shoe and the feather would be to imagine a picture of someone's best shoe with a great big feather growing out of the inside of the shoe. To link the cat with tree, a cat could be in the tree mewing loudly. Use your imagination to link the door to the leaf. After the images are paired to the rhyming word, it is a simple task to repeat the list of words. The first word bun trips the image of the table, out comes the feather from the shoe, and so forth. The more vivid and personalized the images are, the more likely they will be remembered. The bun is crushing the table, and the shoe belongs to whomever is doing the imagining. Also, the more senses that the image involves, the more likely it will be remembered. Using noise, smell, feel, and movement enhances the staying power of an image. The more senses that are used in learning increase the probability that the learning will be remembered.

Recently psychologists taught children to use images to remember pairs of words. Larry Greeson<sup>9</sup> thinks that imagery can assist the learning of concrete material. In the classroom this concrete material would be memorizing addition and subtraction facts, letter sounds and names, and definitions of words. Greeson wanted to find out if one could teach children to use images as tools to remember information by showing them examples. He found out that

he could. When children were shown how to draw a picture to link two words together, they then began creating pictures on their own. This is a picture a child drew to memorize the pair of words boat-tree.



Sometimes children have difficulty learning the names of numbers, like one, two, three and so forth. Students can memorize things better if there are some reasons behind what they are memorizing, but with number labels there are no reasons. One curriculum<sup>10</sup> that teaches the name of numbers superimposes an image on the number. Each image used begins with the same sound as the number label. The images are a wiggly line for wiggle-one, a tiger for tiger-two, a fish for fishy-four, a fat man for fatty-five, and so on. Children are taught to say the name of the image and make a specific movement as they look at the number with the picture of the image. For example, children would look at "5" embedded in a picture of a fat man while they put their hands out wide for a fat stomach, saying fatty-five.

Imagery can help children and adults memorize information. As the example above shows, the use of images can be a practical and effective learning aid.

### IMAGERY AND SPORTS

Beginning in the 1940's, coaches used imagery or mental practice to improve athletic performance. This works by having athletes close their eyes and image themselves

practicing their sport.

In 1943 a number of educators<sup>11</sup> showed that imaging practice could be as effective as actually practicing. A group of men actually practiced dart throwing and basketball throwing for nineteen days. A second group imaged themselves throwing darts and hitting the bullseye, and throwing and making baskets. After the nineteen days, both groups did equally well. This is not to say that one can succeed at a sport without actually physically practicing it, but it does indicate that imagery can strengthen an individual's performance of a sport. The physical practice coupled with the imagery adds an extra edge.

It is reasonable that imagery would improve athletic performance. Both imagery and spatial movement are usually controlled by the right hemisphere. Also, there is evidence that imagery is equivalent to physical sensations in activating the brain.<sup>12</sup> The brain responds the same whether or not one is actually involved in an activity, or one is imaging doing an activity. This makes the power of imagery truly remarkable.

## IMAGERY AND MENTAL HEALTH

Imagery is used by psychotherapists and educators alike to help children and adults maintain emotional stability. The aim of all psychotherapy is to help individuals increase the choices they have in any situation. It is not therapists' role to enumerate all the choices that may face an individual, but it is their role to help an individual create more options. For example, if a woman is caught again and again in an argument with her husband over the way she drives, a therapist would help the woman see a number of different ways she could respond to change the situation. This would be more valuable than the therapist directing the woman, since people are more apt to pursue a course of action they discover for themselves.

Information about the right hemisphere and imagery tells us that imagery is a means of helping individuals create more ideas, and, in turn, increasing their choices. This is, of course, because the right brain is divergent in its thought process. Thinking divergently produces more ideas than

thinking linearly.

Arnold Lazarus<sup>13</sup> used imagery to help people who lacked self-esteem, or suffered from anxieties and phobias. One woman came to Lazarus because her feelings of inadequacy were preventing her from having a fulfilling social life. She had just recently been divorced. Her previous husband had berated her and convinced her that she was unattractive and that no one would enjoy spending time with her. Lazarus asked her to visualize herself going out on a date with a man. On the way home, the man in the image turned to her and said, "I had an awful time with you. You are a totally boring and unattractive woman and I hope I never see you again." As the woman imagined this, she started laughing. She realized that this would never happen and even if it did, she could handle it. After this imaging session she started dating.

Lazarus called this technique a "stepped-up" image. If you exaggerate in your imagination what you are afraid of, sometimes you realize the irrationality of your fears. The imaging process here is essential. Simply telling a person their fears are groundless does not work. Imaging allows one to feel the difference.

Another form of imagery Lazarus recommends for increased mental health is called goal rehearsal. He worked with one actress who suffered from stagefright. Lazarus taught her to image herself on the stage being self-confident and performing in a self-confident manner. She did this every day and found she was able to perform without stagefright.

Lazarus used an imagery technique called "exaggerated role taking" with a man who was embarrassed to return unsuitable or damaged merchandise. Lazarus had the man imagine that he was a billionaire with all the money he needed and that he just wanted to make sure that he got his money's worth. The man imaged this before he returned the merchandise and found that he was not embarrassed, but calm and assured when he actually entered the store.

Jerome Singer<sup>13</sup> used imagery for the treatment of phobias. One of his patients, a woman, was deathly afraid of traveling in a car. During a therapy session, Singer had her relax and image a scene that was very pleasant to her. She

imaged a beach on a Pacific island, sunny, warm, and soothing. She also imaged how she felt on the beach. As the woman imagined this, Singer would introduce an image of her traveling in the car. At first the image was a bit removed from actually traveling, possibly it was only thinking about taking a trip in a car. Then gradually Singer would have the woman image the car travel itself. If the woman became anxious or nervous, Singer would return to the island image. After she was relaxed he would then return to a progression of images about car travel. This technique is called systematic desensitization. It can be successful in dealing with phobias.

Singer also used imagery to help a man with a habit he wished to change. The man was a voyeur. He was a minister and well respected in his community but he had the bad habit of peering in other people's homes to find women undressing. He often would use binoculars. Years of psychoanalytic therapy had not helped his problem. Singer had the man image that he was about to engage in his habit. At the same time, Singer had him image a very noxious scene. For example, a scene in which his brother and other community members would walk into the room and discover his habit. This type of imagery was successful in this case.

These examples from Lazarus and Singer demonstrate how imagery is used by therapists to help individuals gain more control of their lives. Imaging change helps an individual feel and actualize the change.

Some psychologists<sup>14</sup> work with people who are experiencing physical pain as a result of disease. Klinger reports that patients suffering from a wide range of physical disorders, including arthritis, said their pain was decreased as a result of imagery treatment.

Gordon Richardson<sup>15</sup> uses imagery in education for building self-esteem, for helping students make decisions, for solving problems and for stress management. For stress management, Richardson recommends the idealized self-image which is similar to Lazarus' goal rehearsal. In an idealized self image, a teacher asks students to first relax. Then the students are asked to visualize themselves as they would like to be. Sometimes they are first asked to visualize themselves in a situation or setting where they feel very

comfortable. Then they are asked to see themselves as they would like to be. This relaxes students, and increases their self-confidence. Most people have a tendency to think they are not good enough, or inadequate in relation to others. Seeing an image of how one would like to be makes the possibility attainable.

For decision making and problem solving, Richardson recommends that a teacher ask students to visualize themselves in a situation that troubles them, particularly one where they are confused about what to do. For example with adolescent students, a teacher may ask them to visualize that they are at a party and someone is passing around a marijuana cigarette. The teacher asks the students to visualize what they might do in that situation, how it felt, and what are possible consequences of their imagined action. Then the teacher might ask the students to visualize that they take a different action and again how it feels, and what the consequences of a given action might be.

A strength of this approach is that students can practice how they might respond to various situations without having other students or teachers influence their response. When students are relaxed with their eyes closed, they are alone with themselves. This allows students to find out how they feel and what they want for themselves. Practicing how they want to act with imagery may prompt them to act in that way. Remember that imaging dart throwing can improve dart throwing accuracy. Practicing making a decision regardless of peer pressure may allow it to happen.

## IMAGERY AND CREATIVITY

Many scientists, artists, and writers report that their creativity is sparked by a sudden flash of insight. At times the flash is in the form of imagery. There is a state of consciousness that we all pass through right before we go to sleep. The type of brainwaves we are experiencing are called theta waves. During this state between waking and dreaming, images appear in our minds spontaneously. These are called hypnogogic images. Creators report having insights and flashes of creativity during this time. Others report waking in

the middle of the night with an image, or dreaming an image.

The scientist that first discovered the molecular structure of chemicals saw an image of molecules combining and re-combining, almost dancing, as he was staring into a fire on the verge of sleep. Another scientist, Otto Loewi,<sup>16</sup> who won a Nobel prize for showing that nerve impulses are transmitted by chemicals, saw an experiment that he needed to perform to prove this when he was in a dream-like state of consciousness.

Over a number of years Loewi had developed a theory of how nerve impulses are transmitted, but he had never been able to figure out an experiment to prove his theory. Seventeen years after he first formulated this theory, he woke in the middle of the night and wrote something down. The next day he looked at what he had written and could not make it out. The following night the same thing occurred but the next day Loewi could read his notes. He had designed the experiment in his sleep. He implemented it the next day and proved his point.

A children's author, Enid Blyton<sup>17</sup> describes how imagery plays a part in her writing. She shuts her eyes and sees the characters performing and creating a story.

The creative process is sometimes described in the following stages: preparation, incubation, illumination and verification. Preparation is primarily a left brain activity. This stage includes collecting information, reading about a problem, talking about a problem, and logically thinking through the problem. During incubation, there is no active work on the problem. The unconscious mind is working on the problem. Illumination is the stage when the flash of insight comes. All of a sudden, the creator sees a solution or a novel idea appears. These are the type of instances described above. This is the stage when the right-brain imagery plays a key role. During the verification stage, the left brain is again involved. The creator uses logic to document that the idea or discovery will work.

Looking at the creative process as a series of these stages, the importance of the interrelation of the two types of thought processes is clear. Both left and right brain thought processes are necessary to be creative. However, our schools

stress logic and language to the exclusion of imagery and other right brain activities.

A final example of the role of imagery in creativity is Nikola Tesla's discovery of how to produce alternating electrical currents. Tesla was an inventor working in the latter part of the 19th century. Tesla reported a high level of spontaneous images from a very early age. Sometimes he would see an overpowering bright light and flashes of images that interfered with his normal vision. When he was sick, as a young boy, he practiced imaging detailed stories to combat boredom and depression. He was the first man to discover how to produce alternating electrical current which allows the massive use of electricity today in Western society. Tesla conducted electrical experiments in his mind through images. His images created electrical inventions and then in the images he tested and adapted the inventions.

The following quote from a recent biography of Tesla<sup>18</sup> illustrates the vividness of the flash of insight that accompanies the right brain process:

*One afternoon toward sunset, he and Szigety were walking in the city park, and Tesla was reciting Goethe's Faust. The sinking sun reminded him of a glorious passage. . . Then the 'idea came like a flash of lightning, and in an instant the truth was revealed.'*

*Tesla's long, waving arms froze in midair as if he had been seized by a fit. Szigety, alarmed, tried to lead him to a bench, but Tesla would not sit until he found a stick. Then he began to draw a diagram in the dust. 'See my motor here; watch me reverse it,' he exclaimed.<sup>19</sup>*

The diagram which established the means to use alternating current was shown six years later before the American Institute of Electrical Engineers, introducing the world to a new scientific principle that revolutionized the technical world.

## IMAGERY AND DISTRACTIBLE CHILDREN

Some educators claim that distractible children are more adept at using right hemisphere processing modes than other children. Even though there is no scientific evidence to support this, on face value this observation makes some sense. Remember the way the right brain works by taking in a lot of information all at once. It works in a synthetic, holistic way. Distractible children are often characterized by trying to pay attention to a number of things all at once and not focusing on any one thing for very long. It could be that distractible children have a preference for using the right brain mode of perception, but do not know how to control it. Imagery instruction could be a means to teach the discipline of this process.

Larry Greeson<sup>20</sup> proposes that imagery can be a powerful tool for children who are having problems with language. Greeson's assumption is that if children are not learning to read well, then the left brain processing is not these children's strength. Therefore, right hemispheric processing, including imagery can be used as a strength to overcome the weakness of language processing. People do learn in different ways and have different strengths. This also varies by cultures. For example, Native Americans demonstrate a marked preference for thinking in images as opposed to thinking in words. If children with learning problems are better at thinking in images, instead of words, then it is possible that teachers could help them overcome difficulties by teaching to their strength.

Additional support for the fact that distractible children are not strong at left hemispheric processing is that most learning disabled children have sequencing problems. This means that when asked to repeat a given sequence like, 5, 3, 7, 2, 9, distractible children may have difficulty.

Someone might recommend giving distractible children instruction in many left-brain activities, since they seem to have difficulty with this kind of information processing. However, if a teacher were to take this approach the student would experience a great deal of failure.

Using imagery to assist distractible children is a creative alternative. It is almost a diversionary tactic. Instead of

confronting children head on with their weaknesses, imagery instruction would give children an enjoyable means of using their strength to help them.

It may not be that all children who are distractible are stronger at right brain thought modes. But even so, imagery could help any distractible child.

Distractible children have a memory problem. Imagery can be a great help in remembering concrete material. Imagery could be used to help children see themselves doing what is expected of them. A simple example would be helping a distractible child put away his or her clothes at home. A parent could ask a child to relax, close her eyes, and then image coming into a room to change clothes before going to bed. Then the parent would guide the child in seeing herself taking off a shirt and hanging it up.

Imagery is another coping strategy for distractible children, much the way self-instruction, covered in Chapter One, is a coping strategy. Imagery gives distractible children a tool for focusing their attention. By practicing in their "mind's eye" children can better control their behavior. Imagery can be a mediator between a child's intent and a child's actions.

Imagery can also help distractible children improve their self-image. Remember that idealized self imaging was used by teachers and psychologists to improve self-esteem. Distractible children often have a low self-image, because they receive much disapproval from teachers and parents. Using some adaptation of the idealized self-image can relax distractible children and can strengthen confidence.

People who have used imagery exercises with children give a few practical pointers. First, it is clear that the ability to use images improves with practice. Next, when asking children to image something, it is best if children have first gone through a relaxation exercise, and it is best if the group leaders use pauses as they describe what is to be imaged. For very young children, it is best to show a picture of what is to be imaged.

Imagery interacts supportively with all the coping strategies presented in this book. It can be used as a part of self-instruction. In addition to using active behavioral re-

hearsal, children can be asked to visualize themselves completing a sequence of behaviors. Often imagery is used during relaxation. Imagery helps individuals relax, and relaxation promotes imagery. It is a particularly powerful tool for distractible children, since most distractible children have a propensity for right brain types of information processing.

## CHAPTER THREE

### RELAXATION

Usually stress is not thought of as part of children's worlds, but children experience stress just as adults do. Stress is not always bad. It can be exhilarating, prompt achievements, and increase effort. But stress can also be debilitating. If stress comes as a result of the fear of an upcoming test, or fear of the loss of a parent's love through divorce, or fear of being ridiculed by a peer, then stress can interfere with children's actions and promote withdrawn behavior. Conversely, stress can prompt aggression in children. If children feel stress and at the same time cannot verbalize what they feel then they may act out. Besides having negative psychological effects, stress can cause illness, since continual exposure to stress lowers resistance to diseases.

James and Joy Humphrey<sup>1</sup> outline a number of factors that can create stress in children. Some of these are based on changes in society. Societal norms and values are changing and children may see this flux as contradictory. Conflicting messages are delivered about what is expected. Children's parents may talk about ways to behave and mores to follow and then act in an opposite way. Other stress factors for children can be traced to immediate family situations, for example, marital discord or parental criminality.

Stress factors can also come from children's ideas about themselves. If children have low self-esteem, as dis-

tractible children often do, they may experience stress in most situations involving other people. The self-esteem issue is exaggerated when children are with others, because children with poor self-esteem think their deficiencies are glaring and that others will notice. At certain ages children want very desperately to be accepted by others.

In a school situation, children can experience stress from competition with other children for grades and teacher approval. Test situations also can be stressful.

Distractible children experience their own unique kinds of stress. Stress comes from being in an environment full of stimulation that they cannot screen. Perception itself is a stressful issue. Academic tasks are also stressful, because distractible children have a history of responding incorrectly. Adults at times have been verbally disparaging of their performance. Repeated criticism creates anxious and nervous reactions. Learning to relax in the face of stress is important for all children and doubly important for those who are distractible.

### HOW STRESS WORKS

Stress is the mobilization of bodily responses to a stimulus. Stress creates tension which involves unnecessary or exaggerated muscle reactions. There are a number of physiological reactions as the body mobilizes: rapid heart beat, perspiration, blood pressure rise, pupil dilation, and sometimes knots in the stomach. Human reaction to stress can be called a fight-or-flight reaction. It no doubt evolved to help humans react immediately and extraordinarily to physical danger. Humans still have this alarm system to physical and emotional stress.

Hans Seyle's<sup>2</sup> work explains how stress affects people. He defines three stages of stress: alarm, resistance and exhaustion. During the alarm stage the hypothalamus, the part of the brain at the very base, secretes a messenger. The messenger tells the pituitary gland to secrete another messenger, ACTH, which in turn causes the adrenal gland to secrete adrenalin. The mobilization begins. The thymus shrinks. This influences heart rate and blood pressure. After the alarm

stage, the body adapts and is in the resistance stage. Finally the exhaustion stage begins when the body's resources are depleted and can no longer mobilize. The endocrine system is critical in the body's reaction to stress.

### RELAXATION TRAINING TO COMBAT STRESS

Three graduate students, as part of their degree work, examined how to help distractible children relax. Robert Ritson<sup>3</sup> was a Physical Educator. After his students returned to their regular classroom following a physical education session, the regular teachers complained to Ritson that the children were wound up. Ritson decided that his students needed a time to physiologically recover—for the heart rate to decrease and for the breathing to return to normal. To assist this, Ritson began a relaxation period before children returned to the classroom. The last ten minutes of Physical Education class were devoted to relaxation. Ritson then took data on how well the children performed after they returned to their classroom. He reported that children's heart rates actually decreased as a result of the relaxation and that the students' classroom attending behavior increased.

William Giacalone<sup>4</sup> worked with hyperactive children and taught these children progressive relaxation. The technique involved talking through each part of the body to relax. This required a relatively high level of concentration. Giacalone's work was moderately successful. Giacalone recommended two changes to increase the effectiveness of the technique. First he worked with the children during their recess time. The children were not as attentive as Giacalone would have liked primarily because they would have preferred to be playing at recess with their classmates. Giacalone also recommended that a period of vigorous exercise precede a relaxation period. If this had been done, it would more closely approximate Ritson's procedure of physical education before relaxation. It would have also approximated yoga since asanas, or physical postures, are practiced before deep relaxation.

Linda Anneberg<sup>5</sup> used relaxation training for a group of children she called tactilely defensive. These are children

who have difficulty in school because of coordination problems and distractibility. They are called tactilely defensive since they do not like to be touched. Anneberg used a combination of two relaxation techniques developed by psychologists for adults, progressive relaxation and autogenic training. Both involved a rather detailed procedure of talking through one's body and relaxing it. Anneberg found that tactile defensiveness was decreased by the training. She reported that the children had concentration problems with the detail of the relaxation procedure. The difficulty experienced by the children in trying to concentrate sometimes caused anxious feelings which defeated the purpose of the relaxation. Anneberg recommended more work on adapting relaxation techniques for children.

The above procedures could have been more effective with the addition of imagery. Imagery will help simplify relaxation techniques for children, deal with concentration problems and diminish the need for detailed verbal instructions. As noted before, distractible children have difficulty remembering things in sequences. This would include sequential verbal instructions to relax the body. Imagery may give an alternative solution.

#### **OMIZO'S WORK: BIOFEEDBACK FOR RELAXATION**

Michael Omizo worked extensively to develop methods for teaching relaxation to hyperactive and distractible children. Omizo described the children he worked with as hyperactive and impulsive, and as having poor social skills and poor academic performance. He published four articles<sup>6</sup> with others during 1981 and 1982 reporting his successes and recommendations. In three of these studies, he taught children to relax using biofeedback machinery.

Omizo used the following procedures to teach the use of biofeedback equipment. Children were individually taken from their classes to a room designed for the use of biofeedback equipment. An adult supervised the children during training. Children worked with the machines for sessions lasting approximately twenty minutes. The machine used measured muscle tension. Electrodes were attached to the

children's foreheads. Children were asked to make the numbers on the control lights go lower. First the children were asked to squint their eyes, lift their legs, and do as many movements as they could think of to see how it would affect the lights. Children also listened to guided imagery tapes to assist them in relaxing. Children had four to eight sessions with the equipment depending on the study.

Results that Omizo reported from his work include teachers' descriptions of the students before and after biofeedback training, as well as data from tests given to students before and after biofeedback training. Biofeedback was consistently successful in helping students perform better in the classroom according to the reports from the children's teachers. The students increased their attention to school tasks, and their impulsivity decreased. In one study, teachers reported that the students decreased disruptive behavior and became less fidgety and distractible after only two biofeedback sessions.

The test Omizo used to assess impulsivity is designed to see if children can look at a picture with complex detail and then choose one out of three other pictures presented that is most like the first picture. Children did better on the test after biofeedback, implying that their concentration skills improved. The primary idea behind Omizo's work was that if children could be taught control of their muscles with biofeedback, then they could better control their impulses.

Omizo did not report data that academic performance actually improved as a result of biofeedback, only that teachers liked the children's behavior better. It is interesting that Omizo used imagery to teach children to control biofeedback equipment. This supports the last chapter's emphasis on imagery as a tool for self-control. Imagery and a relaxed state are interrelated.

In the fourth article Omizo published, he described an alternative procedure to teach relaxation. Biofeedback is expensive and requires a trained person to operate the equipment. Only one child can be trained at a time. To deal with these drawbacks, Omizo used breathing and stretching exercises to teach relaxation. He did this in a group including parents and teachers so that they could learn how to use the

techniques with the children. The stretching exercises are remarkably like yoga and even include some yoga names, like the cobra.

Omizo pinpointed distractible children's problems as tied to the lack of impulse control. He first recommended teaching children muscle control through biofeedback and then later recommended breathing and stretching to teach control. Omizo hoped that teaching muscle control would in turn teach impulse control. Omizo's data seems to support this conclusion. The practice of yoga includes both breathing and stretching and deep relaxation exercises. Omizo's series of four articles ended with recommending procedures almost identical to yoga, and his biofeedback studies all included the use of imagery.

#### **RELAXATION AND DISTRACTIBLE CHILDREN**

Distractible children experience stress from failure in school, from poor self-esteem, and from the difficulty they have in integrating the sensory impressions in the world around them. A number of educators explored ways to teach children, prone to a high activity level, how to relax. Many of these children could be called distractible. These educators were successful. Ritson used relaxation to calm children before they returned to a regular class after a physical education session. Giacalone helped hyperactive children relax. Anneberg helped tactilely defensive children be more responsive to touch. Finally, Omizo helped impulsive children have more control over their muscles.

These educators' work support the idea of using coping strategies for distractible children. The studies are pertinent since most of the children in these studies could be considered distractible. A central part of all the studies was teaching relaxation. Giacalone recommended an active period of exercises before relaxation which parallels the practice of yoga. Anneberg said that some procedures designed to help adults relax contained too many verbal directions which supports the use of imagery for relaxation. Finally, Omizo's recommendation on breathing and stretching and his biofeedback training techniques could be inter-

preted as a recommendation to do yoga and practice imagery.

Omizo's theory explaining hyperactivity is interesting since he boils the problem down to the lack of impulse control. His theory is supported since he had success in remediating this by teaching muscular control. Ross's theories (Chapter One) on distractibility said that impulsive behavior was really the lack of selective attention. To Ross, the children's problems were in how they took in perceptual information; they could not screen out extraneous stimuli. Omizo does not deal with the issue of perceiving stimuli, but instead concentrates on how children respond to stimuli. It is a subtle but interesting difference. One deals with taking in information and the other deals with the reaction to it. The difference in approach is helpful to encourage educators to deal with both perceptual focus and impulse control. It may be that Ross and Omizo have two ends of the same piece of string.

## CHAPTER FOUR

### YOGA

The word yoga means literally to yoke or to bind. Many people interpret this to say that yoga means union, and go on to say that yoga is the union of the mind and body. This may be, but whatever the interpretation, yoga has to do with sticking together or making two things join together to work, as in the union of two oxen being yoked.

There are many forms of yoga and many people associated with the practice of yoga. Yoga scares some people, because they imagine little men dressed in loin cloths in a contorted pose in a cave in the Himalayas. But the truth is that many people the world over practice yoga, and they are not necessarily strange.

This chapter is about hatha yoga. There are eight elements of yoga that are generally accepted. These are called the limbs of yoga. The first two limbs deal with correct moral behavior and healthy habits, things like not stealing and rising early in the morning. The third limb is the physical postures one practices to create a healthy body. The fourth limb is breathing exercises. The fifth and sixth limbs are sense withdrawal and concentration, respectively. The seventh and eighth limbs are contemplation and higher consciousness. The Sanskrit names for these limbs are yama, niyama, asana, pranayama, prathyahara, dharana, dhyana, and samadhi. The third limb, asana, is hatha yoga. Sometimes hatha yoga is said to include yama and niyama, but we will not be dealing with these limbs in making recom-

mentations for distractible children.

Ha means the sun and tha means the moon. The sun's energy is considered masculine and the moon's energy feminine. Hatha is the integration or combination of the direct and the receptive.

Hatha yoga accomplishes this integration through the practice of postures or asanas. Some postures imitate the agility and strength of animals, like the lion, the fish, and the cobra to mention a few. The postures deal with stretching, strength, flexibility and balance. Hatha yoga is different than most exercise or calisthenic programs. One difference is that the practitioner does not repeat movements over and over. The second difference is that the attention that a practitioner brings to a position is very important.

A student of yoga is asked to take his or her attention to a certain part of the body that is being worked on in a given posture. When a student moves into a posture, an instructor gives very specific information as to where a certain bone should be, or what the angle of the foot should be, or what muscles should be contracted and which should be relaxed. Postures are held from 30 seconds to several minutes. Attention is also given to inhalations and exhalations. At the end of practicing postures, students go through a period of deep relaxation, giving direction to each part of their bodies to relax. The aim of hatha yoga is to bring health to the mind and the body. The physical postures of yoga are combined with the consciously directed attention of the mind. Combining the body and mind in this way brings integration.

Yoga, in the context of this book, is not proposed as a spiritual path or religion. Yoga is proposed herein as a tool to increase psychological and physiological health and to deal with distractible children's unique problems.

### THE YOGIC VIEW OF THE MIND

Vedanta psychology is based on the view of the mind found in the ancient Indian works, the Upanishads, the Brahma Sutras, and the Bhagavad Gita. According to this

philosophy there are four divisions of the mind which have separate functions. A fifth division is not part of the conscious mind but underlies the mind.

### THE MANAS

The first part of the mind is called the manas or the lower mind. The manas deal with the senses: hearing, touch, sight, taste, and smell. It could be called the sensory-motor mind because it takes in sensory information and coordinates movement and action to respond accordingly. Instinctual reactions come from the manas, such as the fight-or-flight reactions that automatically occur when someone is threatened. When the manas control our actions, we are reacting to stimulation from our environment. We are not consciously choosing to act.

### CHITTA

The chitta is the memory bank of the mind. It is the storehouse of past impressions. It is that part of the mind that underlies the manas. The chitta lies outside our awareness and is apart of our unconscious. The sensory information received by the manas and our reaction to it is stored in the chitta. There are traces of all that we have seen and have done before in the chitta. Habitual actions that we do over and over are the result of these memory traces. We may not consciously remember an event, but the memory traces deeply embedded in the chitta can control our behavior. For example, if a dog jumped on a child when he or she was two and engendered a very great fear reaction, that emotion may emerge when the child encounters a similar event later in life. Obviously the child could consciously deal with the fear but that memory trace could have a significant effect on the child without the child remembering the first event.

Reactions to events become linked in the chitta, and the linkages create habits. As with the instinctual actions of the manas, the actions from the chitta are without an individual's conscious choice. A person reacts to a given stimulus out of habit. Since the information in the chitta is not part of

our everyday conscious mind, the chitta can control and affect our behavior without our knowing it. Much psychotherapeutic work is designed, in yogic terms, to open up the chitta to view, so individuals can see what events early in life are now affecting them. The chitta is analogous to Freud's unconscious mind.

During a yoga session, a yoga student practices deep relaxation. This effectively shuts off the manas, since the student's attention is taken inside. The eyes are closed, and the student ignores noises and other events outside. The senses are turned inward. By shutting off the manas, the chitta is allowed to emerge. In essence, the tape in the chitta that has recorded all past events can begin to unwind. In this way those memory traces that control actions can naturally emerge from our unconscious. An individual can become in touch with the source of habits, and then choose actions, as opposed to being controlled by the habit.

#### **AHANKAR**

Another part of the mind is called the ahankar or the ego. Ahankar literally means "I am". It is the sense of "I-ness" that integrates the sensory experiences received by the manas. Ego is not used here in the sense of egotistical or selfish. Each of us needs a sense of ourselves that is separate from others and that is separate from the environment around us. We need to know where the three dimensional space is that our body takes up. Very young infants have no conception of themselves as a unit of life separate from those things around them. Sometimes infants will even catch emotions. One infant crying in a room can prompt another infant to start crying as well.

As infants grow to be toddlers, they develop a stable center of consciousness. They know that they live in a body and that this body has limitations. They come to realize that there are situations that can hurt them. They also come to a realization of themselves in relation not only to immediate space, but the space in their city, state, country and world. Children also become aware of themselves in relation to time, the relationship of day and night, the seasons, and

what came before they were born. Of course, this takes a number of years. Probably children do not realize all of this until the age of 12. As children age, they become increasingly aware of themselves as an integrated unit in space and time.

This sense of "I-ness" is important because it gives one a way of integrating the sensory experience perceived by the manas. "I-ness" gives a center of orientation and with this comes stability. It is a frame of reference, or a point of departure. Without a sense of "I-ness", we would be adrift in a sea of sensory stimulation reacting instinctively to what comes by us. Children cannot develop very far emotionally or intellectually until they have a secure home in themselves.

#### **BUDDHI**

The next division of the mind is the buddhi which is translated as wisdom. It is that part of the mind that has the power to make decisions over and above the sensory input of the manas and memories from the chittas. As a part of the consciousness, the buddhi, when developed, can make choices and influence actions to benefit the self and others. The buddhi can prevent people from reacting out of habit or instinct.

Swami Rama<sup>1</sup> stresses the importance of the buddhi in integrating the body, mind and values. Rama claims that children and many adults are programmed to behave based on what happened in the past. Take the example of the encounter with a dog. The child was programmed by the incident to fear any dog. If the child does not develop the buddhi, he or she may go through life avoiding dogs. The buddhi can override our habits and impulses, allowing us to act in our own interests.

An Austrian philosopher and educator, proposed a theory of education in the early 1930's.<sup>2</sup> His name was Rudolph Steiner and he created free schools for factory workers in Germany beginning in 1919. Steiner's theory was that each child had three basic cognitive processes; thinking, feeling, and willing. Thinking is the intellectual, logical, language-oriented process. Feeling deals with emotions and the intuitive sense and perception. Willing is the

discipline to accomplish actions. There are similarities between yoga's buddhi and Steiner's will. Steiner recommends that children be given activities to develop all three mind processes. He said that the development of will was essential since it was that force within children which allowed for independent decision-making and motivation to realize goals.

To strengthen the will, Steiner recommends physical activities that require persistence of effort and require eye-hand coordination. In Steiner's Waldorf schools, kindergarteners are given balls of beeswax with which to model forms. Before the forms can be made, the beeswax must be warmed and worked with the hands continually to make it pliable. In later years, children work with sewing, crafts, woodwork, and metalwork to accomplish the same purpose.

The discipline of will that Steiner recommends parallels the development of the buddhi in yoga through the practice of discipline of the body in asanas. Rama says that by developing the buddhi, an individual can control that part of the mind that is beyond words.

## **ATMAN**

The last division of the mind is the Atman which is the true Self. It is that part of the mind that can be contacted through the buddhi and is the goal of self-actualization.

## **THE YOGIC MIND AND THE DISTRACTIBLE CHILD**

How do ancient Indian words like manas, chitta, ahankar, and the buddhi relate to distractible children? By looking at distractible children's behavior characteristics, it is possible to interpret the roots of children's distractibility within the context of the yogic view of the mind.

When Ross (Chapter One) and Omizo (Chapter Three) describe distractible children, they concentrate on these children's highly impulsive nature. They react to whatever comes across their sensory path. If the janitor makes a noise in the hall, the children's eyes turn. If something is falling out of their desks, this event commands attention, even if

the teacher is in the middle of a sentence.

In the yogic mind framework, if someone is acting impulsively, he or she is processing information and acting from the manas and the chitta. The manas and the memory traces in the chitta are controlling behavior. Habit, impulse, and instinct rule. Yogic psychology would say that distractible children have not developed their ahankar (sense of self) and their buddhi (wisdom and decisiveness) to guide the manas and chitta.

Distractible children often have coordination problems. They are also often tactilely defensive and shy away from another person's touch. Sometimes they wear their belts very tight. It is as if they want to tell themselves where their body begins and ends. Many distractible children do not integrate sensory experiences in respect to a stable sense of self. These characteristics imply that the ahankar is not fully developed. Other behavioral characteristics imply that this is also true of the buddhi.

Distractible children react as opposed to acting. Their senses and impulses control how they behave. They do not have wisdom to change how they behave to benefit themselves. Since the practice of yoga is designed to develop all aspects of the mind, particularly, the buddhi, yoga practice can help distractible children with a sense of place and self, and with the development of will and discipline.

## **PSYCHOLOGICAL BENEFITS OF YOGA**

### **AWARENESS**

Yoga teachers often talk about attention and awareness. Some yoga teachers also talk about bringing intelligence into certain parts of the body. For example, a yoga teacher may say that the space in the back between the shoulder blades is often a dead space. Very little movement occurs there. Bringing awareness and attention to that part of the body will allow it to move. Life and movement are the same. When an organism stops moving and becomes inflexible, the organism stops living. Bringing movement through awareness to different parts of the body brings life and invigoration to

that part of the body. One primary psychological benefit of yoga is enhancing awareness. First, awareness is brought to parts of the body that were previously numb or tight. Then it is brought to parts of the mind that were previously buried in the unconscious.

### **CONTROL OF THE SENSES**

The second benefit of yoga is to teach control of the senses which sets the groundwork for the development of concentration skills. Asanas or poses teach sensory control. The practice of asanas requires flexibility, strength, balance, and careful alignment of the spine, shoulder and hip joints. The asanas are held for a length of time that increases as practice continues. To do asanas correctly one must think carefully about the movement. The attention is taken inside to that part of the body used in the asana. The use of an individual's attention in this way teaches control of the senses. To focus on the body, one must shut out distracting, extraneous stimuli. If a practitioner is paying more attention to the car noises outside, instead of the body, it may be very difficult to accomplish a given asana.

Yoga provides something that is very concrete and tangible to pay attention to, the practitioner's own body. This gives basic lessons in the use of attention. If one pays attention well, the body performs the asana correctly, and one feels the success. There is immediate sensory feedback.

In this way yoga teaches control of the senses by forcing the concentration of the mind on the body, regardless of external visual and auditory sensations. This effect is further amplified by holding the asanas for longer and longer periods of time. At first an asana may be held from 20-30 seconds. This time limit may be extended to one to two minutes, requiring a more sophisticated discipline of attention.

Yoga also teaches control of the senses through the breath. The breath as well as the body is a point of focus in yoga. Inhaling and exhaling are important in the practice of asanas. Focusing on the breath during the practice of asana includes inhaling before a position is taken, and then

exhaling as the body is extended. Breath is also a tool to promote deep relaxation. There are physiological benefits of deep breathing, which include a decrease in heart rate and a change in brain wave activity. There are also psychological benefits. If one focuses on the breath, notices the inhalations and exhalations through the nose and the movement of the diaphragm and expansion of the lungs, the breath becomes a point of concentration which teaches attentional control. A yoga practitioner, after learning asanas, progresses to the practice of pranayama which includes very specific breathing exercises. This practice finely tunes one's powers of concentration.

One strength of using the breath as a tool for concentration is that the breath is a constant companion to all of us. We are always breathing and if we learn to tune into our breath to gain control of ourselves, then we have an inexhaustible source of help. By focusing on the breath, one tells the eyes, ears, tongue, fingers and muscles, "All of you can go ahead and sense whatever you want, but I'm going to stay right here with my attention on my breath. I'm going to watch it go in and out. I'm going to feel my lungs as they get larger and smaller. I'm going to inhale air all the way to the bottom of my lungs and all the way to the top of my lungs behind my clavicle bones. I'm not with the noises or sights around."

### **INTERNAL SCANNING**

Another positive outgrowth of yoga is the development of the ability to practice internal scanning. The development of this skill primarily occurs in deep relaxation when the student "scans" the inside of the body with the attention. During deep relaxation, the yoga practitioner lies on the back with the hands out to each side, palms up, and the legs slightly apart. The eyes are closed. The teacher will tell the person who is in deep relaxation to focus first on his or her breathing. The attention is taken to each part of the body to tell it to relax.

Internal scanning is not only used to direct the body to relax, but is also used to sense an area of the body and feel

the sensations there. Directing the attention inside requires that one block out sensations outside the body. One must shut out external sensory events. This is a powerful ability and an essential one for children to develop if they have difficulty screening extraneous stimulation. If they first learn to shut out all stimulation, then they can generalize this ability to automatically pick and choose from various stimuli what is worthy of attention. Children learn to fine tune their attention using the body as a laboratory.

Enhanced awareness, sensory control, and internal scanning can help individuals learn voluntary control of their thought process. If one can control what comes into the mind, then that person can control thoughts. The buddhi flourishes. Children gain power over the world in which they live and over the information they receive. They can shut out stimulation and pay attention to what they choose. They, in turn, have choice, freedom and control.

#### **FLEXIBILITY AND ADAPTABILITY**

The practice of yoga is said to parallel life. The corollary to this is if the flexibility of the spine increases, then the flexibility of the mind will also increase. An assumption of yoga is that the body and mind are one, and the body is a reflection of the mind. By working with the body, the mind can be affected. If one learns to do a backbend and hold and flex the spine, then this same individual can approach a situation during the day with a similar quality of flexion.

Through asanas the body learns to adapt to change and to achieve balance. Many asanas require balancing over extended periods of time. The mind has to acquire these attributes as well, to direct the body to demonstrate them. Also to direct the body to relax, the mind must enter a calm state. Yoga teaches flexibility, adaptability, balance, and calmness of the body and the mind.

#### **PHYSIOLOGICAL BENEFITS OF YOGA**

The great number of physiological benefits of yoga are impressive. In a book titled *Science Studies Yoga*<sup>3</sup>, James

Funderburk reviews a number of studies which explore the physiological benefits of yoga. Funderburk presents the studies in exhaustive detail. A summary of Funderburk's presentation on the physiological benefits follows.

Yoga practice increases the flexibility of the body. For example, the extension and flexion ranges of joints, such as the ankles and hips, will increase as a result of yoga. Yoga practice also helps practitioners improve on traditional measures of fitness. These would include measures of coordination, equilibrium and stamina. Cardiovascular efficiency is improved through yoga practice because the practice promotes changes in blood vessel diameter. During the deep relaxation pose, which is called shavasana, the constriction of the blood vessels on the periphery of the body is lessened. This, in turn, will increase the blood flow. This is indicative of the decreased autonomic nervous system activity. During inverted postures, such as the shoulder stand or the head stand, the head is down and the feet are up. This increases the flow of venous blood. Also there is an increase of blood to the thyroid which enhances its function.

Yoga does not markedly decrease the pulse rate, as would be accomplished with sustained aerobic practice. The heart rate does, however, decrease slightly during yoga practice. Contrasted to this is the clear decrease in blood pressure that accompanies the practice of yoga. Evidence supports the effective use of yoga as a treatment for hypertension and asthma.

According to some tests, the actual blood chemistry changes as a result of yoga. The hemoglobin content increases and there is a decreased cholesterol content.

The amount of air that an individual can inhale and expire increases as a result of yoga. This, in turn, creates an increased capacity of the lungs to oxygenate the blood.

Yoga has the effect of toning the endocrine system and nervous system. This improves an individual's physiological reaction to stress. Yoga promotes better functioning of the adrenals and the autonomic nervous system.

These latter benefits may be critical for distractible children. One physician thinks that there is a physiological base for distractibility and that it is seated in the autonomic

nervous system. Richard Buckley<sup>4</sup> bases his ideas on the fact that highly distractible children react differently than most people to stimulant drugs such as Ritalin. Instead of being stimulated, these children are calmed by the drug.

The autonomic nervous system has two separate response systems. The sympathetic system is responsible for excitement and problem-solving. The parasympathetic system prompts nutrition, sleep, and repair. The two systems are interrelated. When one is dominant the other is subordinate.

According to Buckley, one of the neurotransmitters that activate these systems is the culprit for distractible children. Stimulant drugs make the neurotransmitter, dopamine, function better. By enhancing dopamine's function, stimulant drugs inhibit the sympathetic system which prompts the parasympathetic system to dominance, evoking a receptive state. Since yoga increases the blood flow to the spinal column and the brain, promotes better functioning glands, and increases the flexibility of the spinal column, yoga will promote a better functioning nervous system. This may have a net effect similar to stimulant drugs for distractible children, prompting the parasympathetic system to dominance.

Buckley's theory on an underactive neurotransmitter is different from previous theories proposed to explain distractible children's learning disorders. Chapter One reviewed those theories and treatments which assumed distractible children's problems were the result of brain damage or minimal brain dysfunction. The treatments that resulted were designed to fix the children by retraining the perceptual or nervous systems. Buckley's ideas are much more specific and a treatment that promotes a better functioning autonomic nervous system would be in order as opposed to one which retraces previous development steps in motor and perceptual skills.

## YOGA AND DISTRACTIBLE CHILDREN

Someone might rightly ask, is not yoga just another form of motor training reincarnated to help distractible children? It is true that yoga is physical exercise. Practi-

tioners take on poses that stretch the body and increase blood flow to certain areas of the body. However, the purpose of yoga differs from the purpose of previous motor treatments proposed for distractible children (See Chapter One). The ultimate aim of yoga is to help the practitioner create and maintain a healthy body and integrate mind and body functioning so that concentration of focus of attention is possible. In Omizo's terms, the goal is to teach impulse control, and in Ross's terms, to teach selective attention. Yoga has the added benefit of enhancing autonomic nervous system functioning which addresses Buckley's suppositions on the physiological roots of distractibility.

The psychological and physiological benefits of yoga may, in time, make it the preferred treatment for distractible children. Physiologically, yoga will help children deal with stress successfully and will help children develop better functioning nervous systems. Since yoga teaches concentration, yoga will have the psychological benefit of helping children attain power over their senses. Yoga teaches sensory control and, as a result, concentration skills through an array of practices, including asanas (balance poses, poses held for sustained periods of time, and inverted poses), breathing practice (during asanas, deep relaxation, and pranayama), and deep relaxation.

The internal scanning used during deep relaxation may be the most powerful skill yoga has to offer. Internal scanning helps children sense their body. It also brings awareness to the unconscious mind and promotes the use of imagery. Through internal scanning, children learn sensory control which develops the ability to screen incoming stimuli and block out that which is extraneous. With sensory control comes control of the mind and the choice to use the mind's power.

## CHAPTER FIVE

### COPING STRATEGIES FOR DISTRACTIBLE CHILDREN

We have reviewed four techniques that can be taught to distractible children to teach them control of their senses and impulses. These are self-instruction, imagery, relaxation, and yoga. These techniques will provide long range help for distractible children. Skills are taught which can be used by children to effectively deal with a variety of situations in school and at home. The coping strategies avoid the pitfalls of immediate stop-gap solutions, reviewed in Chapter One, which assist distractible children as long as they are in force, but leave the child with nothing concrete when they are removed. Coping strategies give children power over themselves. With the use of the strategies over time, distractible children can develop conscious control of their attention and their responses.

Three explanations for the crux of distractible children's problems were presented. Ross, reviewed in Chapter One, proposes that distractible children's central problem is the inability to use selective attention. By this he means the capacity to unconsciously sort incoming stimuli, so that only those stimuli that are relevant to a task are attended to, while extraneous stimuli are ignored. Omizo's theory, reviewed in Chapter Three, pinpoints the lack of impulse control as distractible children's deficiency. Buckley's theory from Chapter Four isolates the neurotransmitter, dopamine, which activates the sympathetic system of the autonomic nervous system, as the culprit. One important facet of dis-

tractible children, proposed in Chapter Two, is that these children have a preference for information processing in a right brain mode which is characterized by divergency and imagery. These ideas combined point to specific qualities which coping strategies should possess.

### **1. INTERNAL SCANNING: TEACHING SELECTIVE ATTENTION**

Internal scanning is closing the eyes, ignoring noises, and taking the attention inside with purpose. The purpose can be to feel and sense what is happening on the inside of the body, to give suggestion to the body to relax, or to find, retrieve, and create an image. Internal scanning teaches control of the senses, because to accomplish its use successfully the senses of sight, hearing, smelling, tasting, and feeling must be ignored. Children in effect shut off their senses that take in information from the outside. They learn to ignore their senses and direct their attention inside the body. This ability then can be generalized to everyday situations so that the capacity to concentrate is developed since children have the ability to ignore stimulation.

### **2. MUSCULAR CONTROL: TEACHING IMPULSE CONTROL**

Omizo's research demonstrates that teaching children muscular control can, in turn, teach these children impulse control. If children feel an impulse, but yet can stop their muscles from reacting, then there is conscious control of reactions. From the yogic view of the mind (Chapter Four), teaching children muscular control would allow children to stop the spontaneous reaction from the manas (sensory-motor mind) and the chittas (the mind's memory bank) to incoming stimuli. Attaining muscular control gives the possibility of a choice.

### **3. TONING THE NERVOUS SYSTEM**

If children's inability to focus attention results from neurochemical transmitters in the nervous system not working normally, then strategies that tone the nervous system may help. This would increase the efficiency of the para-

sympathetic system of the autonomic nervous system, and, in turn, greatly enhance children's ability to rest and rejuvenate themselves. Helping children develop a better functioning nervous system has added benefits. Since the nervous system is central to the body's reaction to stress, a well-functioning nervous system will help children deal with stress. This is especially important for children failing in school and for children with a poor self image.

### **4. RIGHT BRAIN PROCESSING**

A central element in all the coping strategies is right brain processing. Three of the coping strategies: imagery, relaxation, and yoga, are clearly right brain in nature. The fourth one, self-instruction, has elements of right hemispheric processing, since body movements and actions are rehearsed. Right brain thinking is divergent, spatial, and holistic, and includes motor skills, musical abilities, and imagery. The right brain is a two-edged sword for distractible children. Some educators observe that distractible children prefer and excel at right brain processing since these children respond divergently to all stimulation that comes their way. However, distractible children do not use the right brain processing to their benefit. It may be that distractible children have a propensity for right brain thinking but cannot control its use.

The task of a coping strategy would be to teach children discipline with right brain thinking. Right brain activities such as movement and practice in arts and crafts will teach discipline of that process. The strength of these activities is that in requiring concentration to perform a movement or in creating something, children are forced to focus and learn how their gift of divergency can be channeled. The eye-hand coordination required by the arts teaches concentration. Right brain activities assist in the development of the buddhi (wisdom) and will enhance children's control of themselves. Such activities will have other spillover benefits. They can be used to teach children to relax, to enhance children's self esteem, to help children see choices, and to foster creativity.

Distractible children's divergency can be transformed

from a barrier to a strength, if they can be taught to control their senses and focus their attention.

Coping strategies, then, work best when they. . .

teach concentration  
 help with stress, teach relaxation  
 improve self-esteem  
 teach muscular control  
 teach sensory control through internal scanning  
 are right brain activities  
 include discipline of attention through eye-hand  
 concentration  
 use imagery

Even though the focus is on helping distractible children, coping strategies can help all children be creative, focused, happy and healthy children. The implication for parents and teachers is that home activities and the curriculum at school should include yoga, imagery, dance, gymnastics, painting, metalwork, ceramics, sewing handwork, sports of all kinds, and reflective periods to encourage relaxation, fantasy and daydreaming. The results of these kinds of activities would be children who could control their senses and responses, and who are not afraid to think up new solutions to all sorts of problems. The attitude that we as parents and teachers must adopt if we want to accomplish this is one of non-judgment. Remember the one rule of brainstorming, that process from Chapter Two, designed to seek creative solutions, was not to criticize anyone's ideas. The more we encourage children to think of ideas and options, the more creative they will become.

In the remainder of this chapter, specific examples of coping strategies are presented. These are concrete procedures for dealing with distractible children's deficiencies as described by Ross, Omizo, and Buckley. It should be noted that these attentional coping strategies do not preclude the need for instructing children in specific academic tasks. A number of techniques have been developed by educators that are effective in teaching distractible children basic academic skills. Both coping strategies and basic skill instruc-

tion should be used simultaneously.

The strength of the coping strategies are summarized in the following table.

| STRATEGY         | STRENGTH                                                                                                                                                                                                      |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Self-Instruction | Uses behavior and verbal rehearsal to mediate between a child's intent and action. Will help with impulse control. Will also help with selective attention, since talking aloud to oneself shuts out stimuli. |
| Imagery          | Assists with stress, improves self-image, and encourages creativity. Can be used as a learning tool by children in a number of situations.                                                                    |
| Relaxation       | Assists with stress. Teaches impulse control.                                                                                                                                                                 |
| Yoga             | Will tone nervous system. Teaches sensory control and concentration through internal scanning and breath control.                                                                                             |

#### APPLICATION: Self-Instruction

Carol is a third-grade student of Rhonda Davis. When Rhonda works with Carol individually, Carol does very well. But when Carol is asked to do anything on her own, Carol does nothing. She spends her time drawing unicorns on her papers, or staring out the window. She often asks to be excused to go to the bathroom, and usually someone has to be sent to find her.

Rhonda thought Carol was lazy and perhaps she had family problems which were interfering with her school work. However, after discussing the situation with a Learning Disabilities (L.D.) specialist, Rhonda realized that Carol has trouble focusing her attention. The L. D. consultant

gave Rhonda some specific instructions in how to teach Carol through a self-instruction procedure.

The class format in the morning was that Rhonda worked with reading groups of 6-8 students, while the rest of the class completed work independently at their desks. When one group was done, Rhonda would call for the next group to come. Carol rarely came to the group when it was her turn. Rhonda usually had to go get Carol and help the child sort through her messy desk to find the right book. Rhonda found this very irritating, and she would often yell at children at this time in the day. Both Rhonda and Carol needed some help.

To attack the problem, Rhonda examined the specifics of what she expected of Carol. Adults often make assumptions of what children can and cannot do. To guard against this, Rhonda looked at the steps required for Carol to come to the reading group and respond correctly, once she was there. These are the steps:

1. Find seat.
2. Recognize what the teacher says to indicate it is reading time.
3. Know what materials are required to take to reading.
4. Find the reading group.
5. Listen and follow as others read.

After talking to the L.D. specialist, Rhonda knows if she increases the sensory input to Carol on what she wants her to do, then Carol will be more likely to respond correctly. To start off with, Rhonda decides to go and touch Carol when it is time for reading. Rhonda will also put a picture of a child reading on the front of Carol's reading book to help Carol find the right book. Rhonda has asked another student to stand beside Carol and walk with her to the reading group. When Carol gets to the reading group, Rhonda will have Carol sit beside her. She will place a marker in Carol's book in the place where the group will begin reading. Rhonda will also ask Carol to point to each word as other students read so she will not lose her place. Rhonda will do this entire procedure for a few days and then will gradually take away some of the assistance.

In order that Carol can eventually complete the steps independently, Rhonda will teach Carol to talk to herself as she completes the steps. Rhonda will ask Carol to stay in for recess one day and they will rehearse the steps, almost as if they were practicing for a play. Rhonda will ask Carol a question and then tell Carol the answer. Then Rhonda will ask Carol to repeat the answer on her own. This sequence of questions and answers will be repeated until Carol can tell Rhonda the answers all on her own. To vary the practice and add interest, Carol will switch roles with Rhonda. Carol will ask the questions and check to see if Rhonda comes up with the correct answers.

Here's the sequence. . .

What do you do first when I say it is time for reading?  
I find the book with the picture of a child reading on the front.

Then what?  
I go to the corner by the window and sit next to your chair.

Then what?  
I listen for the page number and find that page in my book by the marker.

Then what?  
I follow with my finger as each child reads.

Carol is taught to talk herself through this sequence, and reminded each day to repeat this to herself. In a week's time, the problem is solved and Carol has experienced talking to herself as a tool to focus attention. It may seem like a great deal of effort to solve this seemingly minor problem. However, the problem was a source of great irritation for the teacher. Solving this will improve Rhonda's attitude toward Carol. Also Rhonda and Carol use this success as a springboard for dealing with other problems. Each problem will be easier to attack now that the format for solving the problem has been found. In time, Carol will automatically use self-

instruction to focus her attention.

#### **APPLICATION: Imagery**

Arnold Lazarus used imagery to help children overcome fears and anxieties. His assumption was that children have vivid and active imaginations, which sometimes seem centered around frightening things like ghosts and goblins. His logic was why not turn this natural propensity around to help children. Lazarus worked with a 14-year-old boy who had an intense fear of dogs. The problem could not be tackled directly since the boy denied his fear.

To discover how to choose a positive image that could be used to relax and calm the boy while he was thinking of dogs, Lazarus did a careful survey of the boy's likes and dislikes. He discovered that the boy's innermost desire was to own an Alfa Romero and race it at the Indianapolis "500" event.

Lazarus had the boy relax and image himself driving the Alfa Romero in the race. As the boy saw himself in his mind's eye, Lazarus would introduce an image of a dog. At first the image was vague and far removed—like a dog locked in a house three doors down the street. Slowly Lazarus introduced more immediate and concrete images. The boy was instructed to lift his finger if he became tense or fearful. If the boy did this, Lazarus returned to the car image. Over time, the boy's intense fear of dogs lessened.

Teachers can use imagery in a less systematic way to help children relax, build self-esteem, and encourage right brain thinking.

Some possible imagery topics are:

1. A color.
2. A favorite spot at home.
3. Having the teacher praise your work.
4. Seeing a good friend.
5. Having a special friend invite you to a party.
6. An event that made you sad.
7. Being held by your mother when you were very young, and feeling very warm.

8. Swinging very high in a swing.
9. Laying on the ground and looking up at the sky, seeing a cloud, a tree branch.
10. Seeing a magic television screen in the sky, seeing a picture of yourself as you would like to look.

Imagery can also be integrated into a deep relaxation exercise after yoga practice. Here is an example.

"Lie down on your back. Put your arms away from your body with the palms of the hands facing upward. Have your legs comfortably apart with the toes pointing outward. Close your eyes. Take three or four deep breaths. Lift one foot, plop it down on the floor. Now one arm. Lift it. Drop it. Now the other arm. Lift it up, down it goes. Lift your stomach; then drop it to the floor. Now move your head from side to side. Tell all of your body to relax. Make sure your eyes are closed and come with me on a trip."

"We have all just come out of a bus. We look back and the bus is painted with pink and blue stripes. All of the sudden the bus fades away and all we see are beautiful, large stripes of color that are pink and blue."

"The colors start to move, swirl and join. Soon a shape is forming. The colors become a funny, wonderful clown. He is happy and smiling. His suit is pink and blue. His eyes sparkle. His nose is red. His hat is pointed and crooked. He jumps and turns and tumbles about."

"Magic. He pulls out five balls. He juggles. They start moving around in a circle. Faster and bigger, around and around. A big, big circle of purple. We are in the circle. We are there." (Pause 10-30 seconds, letting children sink into the image.)

"Now wake yourself up. Rub the soles of your feet together. Rub the palms of your hands together. Roll side to side."

### **APPLICATION: Relaxation**

The following lessons can be used with children to teach them to relax and to breathe deeply.

#### **Deep Breathing:**

"We are going to learn to completely fill our lungs with air. This is important to get oxygen to all parts of the body. It helps you be healthy and helps you to relax. Your lungs start at the very top of your shoulders, behind the clavicle, and go down to the bottom of your ribs. Feel where they start and stop."

"You will want to fill your lungs from the bottom to the top. A good way to do this is to puff your stomach out like a balloon as you inhale air into your lungs through your nose. Keep your mouth closed as you inhale."

"Now sit crosslegged with your back straight. Take air in your nose or inhale as you puff your stomach out like a balloon. Now exhale the air out your nose. As you do this, pull your stomach in. Inhale slowly, push stomach out. Exhale, push your stomach in."

Have children practice 5-10 deep inhalations and exhalations. It takes practice over weeks to perfect this. Once children have learned deep breathing, teachers and parents can ask children to breathe deeply whenever they are tense, in distress, or are overexcited.

#### **Relaxation Exercise:**

"Lie on your back. Place feet apart (about 10 inches), toes pointed outward. Place hands to your sides away from your body. Palms up. Close your eyes. Rest."

"You're going to pick up each of your feet and arms, tense them, and then let them drop to the floor. Pick up one foot. Tense it. Hold it tight. Then drop it. Pick up the other foot, tense it, then drop it. Pick one hand up, tense it, then drop it. Pick up the other hand, make a tight fist, tense it, then drop it. Raise your stomach and then drop it. Move your head

from side to side. (All of the above should be said slowly, pausing between directions.) Close your eyes."

Now breathe deeply. Remember to puff your stomach out as you inhale and pull your stomach in as you exhale. Image your ribs moving outward as you inhale. You must open your rib cage to allow more air to come in. Now inhale (pause 5 seconds), exhale (pause 10 seconds). Repeat."

"Now talk to your body silently inside your mind and tell your body to relax. Think about your toes, tell them to rest, to relax. Relax toes. Think about your legs. Say to them, rest legs, relax legs. (Pause) Think about your stomach. Relax stomach. Tell your chest to rest. (Pause) Your heart beats many times every minute of your life. Ask your heart muscle to relax. Give it firm positive suggestions to relax. Think about your back. Relax your back. (Pause) Relax your head. . . , your ears. . . , your eyes. . . , your nose. . . , your mouth. Feel your cheeks getting rounder. Feel your nose sinking into your face. Notice your breath. Watch your breath go in and out."

"Now go back and check your body. Is any part tense? If so, give it firm positive attention to relax. Feel as if someone has just covered you with a warm blanket. Your entire body feels warm and toasty. You are warm and relaxed. You don't want to move."

Hold relaxation several more minutes.

"Now slowly wake yourself up. Come back to this room and slowly sit up. Carry the feeling of relaxation with you throughout the day."

Relaxation practice is most effective when done daily. Teachers can incorporate a relaxation exercise into their schedule at the same time each day. After lunch recess is often a time when teachers find children's energy hard to control. Remember the recommendations from the research reviewed in Chapter Three, relaxation exercises work best

when they follow physical activities or stretching exercises. Also, remember not to make the instructions too detailed, and to use images if at all possible.

#### **APPLICATION: Yoga Practice**

A third grade teacher, Trudy Yaklich, had two students, Jamie and Kent, who had great difficulty in completing work during an independent reading period. This reading period was an individualized work time for children to complete work in a phonics workbook. Children were placed at their skill level so no two children were necessarily placed at the same level. Trudy would circulate among the children and help them individually.

Jamie was highly distractible. She talked continually, but her words did not necessarily make a great deal of sense. When asked a question, Jamie would frequently respond with an answer that had nothing to do with the question. She spent a lot of time watching other children. Even with this somewhat bizarre behavior, it was clear that Jamie could work successfully in the reading workbook. Every once in awhile, as if by magic, Jamie would respond accurately. The best word for her behavior was sporadic. Kent's behavior was very different, but it had the same net effect—little work done during the independent reading period. Kent would sit quietly and not disturb anyone. He would answer Trudy's question and complete work when she was there but did no work when Trudy left to go work with other children. He spent his time sketching elaborate pictures of cars.

Trudy's curriculum consultant suggested that yoga practice could help both children focus their attention during the independent reading period. The curriculum consultant had a college student in mind, majoring in education, who would be a willing volunteer to teach the children yoga.

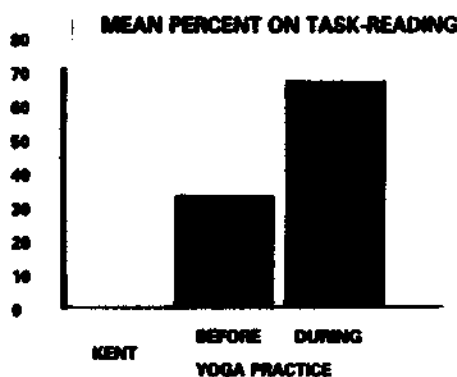
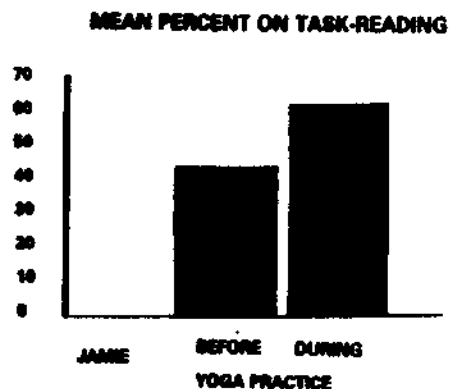
The consultant wanted to have verification that yoga practice would actually help Jamie and Kent pay better attention during reading. To accomplish this, Jennie, the college student, came twice a week for three weeks and sat quietly in the classroom, recording the percent of time that

Jamie and Kent paid attention while they were working on their phonics reading books. Jamie paid attention 48% of the time and Kent paid attention 36% of the time.

After this three week period, Jennie came to the children's class 20 minutes before reading and conducted a 10 minute yoga session with the children. Each session ended with practice in deep relaxation. Jennie did this twice a week for five weeks. She continued to observe the percent of time the children paid attention during their reading workbook period. This period was directly after the yoga practice. During yoga practice, Jamie paid attention 69% of the time and Kent paid attention 74% of the time.

The curriculum consultant and teacher thought that the change was positive and that the increases in percent of time paying attention gave a very strong suggestion that yoga practice had helped the children. Trudy reported that the children were much more attentive. She was particularly glad to see that Jamie slowed down. According to Trudy, "Jamie needed to slow down in every area of her life. Yoga reminded her that when her body slows down, her mind would slow down as well. Yoga was very effective in helping her make the connection when I asked her to slow down. She knew what it felt like."

Other teachers tried out yoga as well. These teachers commented that one of the biggest pluses from doing yoga with children who are failing in school is that yoga is non-competitive. The competition for academic achievement is a source of stress for all children. But for children who consistently fail it can be devastating. Yoga is something that children can do quietly and calmly by themselves without others correcting them, particularly when they close their eyes and sense and relax their own body. The application of yoga was successful.



Shows two students', age 8 and 9, mean percentage of thirty second interval time sampling recording of on-task behavior during a thirty minute independent reading work period. The first bar is the mean percentage across several reading sessions before yoga instruction began. The second bar is the mean percentage for several reading sessions when yoga practice occurred immediately before the reading sessions. Yoga practiced included deep relaxation.

## AFTERWARD: DIRECTIONS FOR EDUCATION

Previous chapters reviewed distractible children's behavioral characteristics, special education's historical response to these children's problems, and specific coping strategies that can be used to help distractible children gain power over their attention. The strategies were designed to help distractible children accommodate successfully to school situations. The focus for change was the children and how teachers could help these children cope.

However, distractible children are part of a system which includes teachers, schools, curriculum, peers, and family. The locus for these children's failure cannot rest only with the children. If the problem is examined with a systems approach, then each aspect of the system interacts with the whole complex to create the problem. It is convenient to pinpoint the child as the problem since she or he is the one who acts out or becomes withdrawn, guesses randomly at answers, and is the one that does not fit in. The child is the one who is not normal. But what is normal? Normality is not any absolute. It is the collective expectations of people involved in a given endeavor. In the case of the distractible child, the expectations are those of the school system culture including the teachers, administrators, resource individuals, children, and parents. These expectations contribute to distractible children's problems as much as the children's behavior and perceptual abilities.

Logic and language are the teaching goals of education in Western society. As we have learned, distractible children have a propensity or preference for right brain thought

processes. Their strengths include holistic perception, imagery, the arts, and sometimes movement activities, even though they do not always know how to use these strengths for their benefit. Education sets these children up for failure by de-emphasizing right brain skills in comparison with left brain skills. The left brain skills of logic and language are necessary to include as curricular goals, but not to the exclusion of other complementary skills. The right brain strengths of distractible children can be creatively used to assist them in learning those left brain skills that cause them difficulty.

By creating a school system that ignores or is downright hostile to holistic brain functioning, we may lose the opportunity to develop children's abilities who are comfortable in thinking divergently. These children are our future dancers, photographers, artists, craftspeople and are children who can bring a holistic viewpoint to their world.

A holistic perspective is important because by simultaneously perceiving or entertaining a number of ideas or options collectively, interrelationships between the pieces can be seen. Novel ways of fitting information together can emerge. If a person is aware of a whole, then decisions can be made based on benefits to all elements of a system. If information is only analyzed piece by piece, then tunnel vision can result. For example, a treatment can be developed to dissolve a cancerous tumor, but this same treatment will in turn destroy an individual's immune system. The tumor is removed but the whole organism suffers. A holistic perspective is important in this age of sophisticated specialization in order to make decisions on how best to use information. A holistic perspective can result in a balanced and integrated point of view.

The children we've examined in this book are distractible, divergent, learning disabled, and disturbing. We might call them "D" children. They are disturbing because the standard educational practices of our schools miss the mark with these children. Instead of only accommodating the children to the system, we can also accommodate the system to the children. Even though "D" children fail in response to standard teaching practices, other children who

are succeeding in school or who are progressing marginally may also be missing the opportunity to develop their full potential. All children could benefit by developing their right brain talents and abilities and discovering the artist, the mover, the creator, or the part of themselves who can view things holistically.

Previous chapters covered Piagetian developmental stages for children's cognitive development and the model of the mind based on yogic psychology. These views of the mind are very different and originated in very different parts of the globe, Switzerland and India. A comparison of the two yields information on how to restructure the educational system.

Piaget's developmental stages progress along a linear continuum, beginning with the sensori-motor stage and then progressing to preoperations, concrete operations, and formal operations. During the sensori-motor stage children primarily sense and react to their environment. During the next stage, preoperations, children learn to develop symbols but are not capable of logical thought. Then during concrete operations children learn to use logic by manipulating materials in their environment. Finally, during formal operations, children attain the cognitive abilities to think in a logical manner without the assistance of working with external objects. Children can conduct what is called interiorized operations, since they are carried through in the interior of the mind.

The yogic view of the mind is not linear, but can be diagrammed as a collection of interlocking pieces. The pieces are the manas, the chitta, ahnaker, the buddhi, and the atman. The manas are the sensory motor mind and can be compared to Piaget's sensori-motor stage, since the manas are responsible for sensing the environment and reacting to it instinctually. The chitta is the memory bank that is outside of the conscious mind control and that influences our actions by responding habitually to the environment.

The ahankar is the sense of "I-ness" and is comparable to the preoperational stage in Piaget's scheme. During the preoperational stage, children develop a sense of themselves as separate from other people and as separate from

other parts of their immediate environment. It is necessary for children to know their physical limits. It is also necessary for children to create a stable point of reference for integrating sensory information. Anyone familiar with this age group, which Piaget designates as usually between the ages of two and seven, knows that these children repeatedly test their territory and stand up for their desires and possessions over what appears to adults as meaningless conflicts. Piaget's preoperational stage includes more than developing a stable sense of self. For example, children learn to use language and develop games and routines. But the aspect of developing a sense of "I-ness" is central to both the preoperational stage and the ahankar division of the mind.

The similarities between Piaget's cognitive stages and yogic mind divisions ends after preoperations and the ahankar. In Piaget's model after preoperations, the entire viewpoint of cognitive development shifts to the acquisition of logic, first by manipulating objects and then by conducting logical interiorized operations in the mind. Piaget's ideal of cognitive development can be looked on as the domain of the left hemisphere. Even though both hemispheres are active and supporting each other in any kind of thought process, logic is the realm of the left side. Of course, imagery could be used to conduct interiorized operations, as Tesla did in inventing the means to use alternating electrical current. Even so, logic and linear thought is what Piaget isolates as the aim of cognitive development. Individuals who have attained formal operations are capable of scientific thought, can logically analyze information, and can make comparisons of information. These are important skills.

The yogic mind view's next division after the ahankar is the buddhi. This is translated into the word wisdom. Logic is necessary for wisdom, but the word implies more. Being able to use wisdom to make a decision implies that an individual has a sense of rightness, and that the choosing weighs both the long term and short term benefits of actions. Integration is required for wisdom since both logical and intuitive abilities are used. For logic to be most functional it must be embedded into a matrix that includes value judgments on the quality of actions.

The yogic notion is that the end goal of cognitive development of the mind is that which promotes wisdom. Most individuals would subscribe to the goal for education to help children be wise as well as logical. But how can education be restructured to do this? This would require a whole brain educational approach.

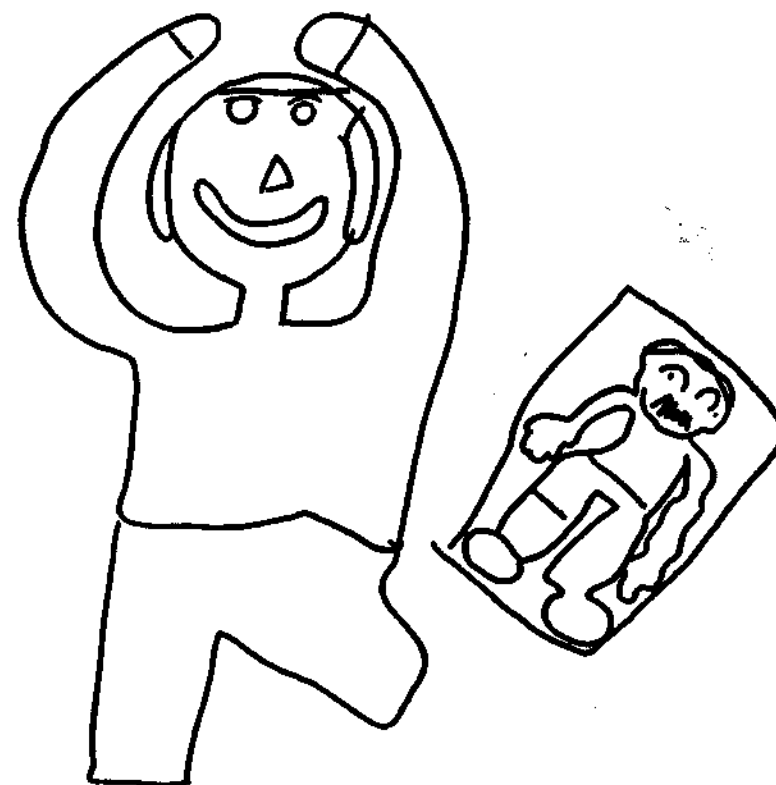
Wisdom is not developed through presentations of information in lectures. Wisdom arises from experience. At first yoga's aim is to increase awareness and control of the physical self. The next step is the development of awareness, discipline, and control of the mind. As one progresses to being comfortable and secure with the physical self, one progresses to being comfortable with closing the eyes and being quiet with the mind. It is almost as if it is a process of getting to know one's self.

The pursuit of wisdom as prescribed by yoga psychology comes from interacting with one's interior self. There is, after all, a relationship to Piaget's formal operation stage since this is characterized by interiorized operations. Piaget's route is a left brain one and the yoga route is a right brain one, but both lead to a refined use of the mind apart from interaction with the external environment. Yoga psychology gives qualities that experiences for children should contain if they are to have the effect of developing wisdom in children. It does not mean that all children need to practice yoga. Yoga is one approach; there are others. All approaches, though, should prompt children's awareness and discipline with their mind and body. The list of activities could include calligraphy, pottery, painting, dance, imagery exercises, and relaxation training.

Education can be restructured to address the whole child by creating experiences that will nourish the whole mind. These recommendations are not so different from what educational psychologists have been saying for quite a long time. A case in point is John Dewey whose work was published early in the twentieth century. Dewey was struck by the changes wrought on children's lives by the industrial revolution. He observed that children were much more motivated to learn when they were involved in chores and crafts necessary to maintain a household. He urged edu-

cators to create similar "occupations" for children in the context of the school. The research on the processes of the right and left brain help us refine Dewey's recommendations and educating the whole child is the aim.

#### APPENDIX: YOGA ASANAS



Two drawings by first graders of yoga asanas. The one on the left is a balance pose called the tree. The one on the right is a deep relaxation pose called the sponge.

### **Scheduling Yoga Lessons**

Consistency is very important in practicing yoga. Repeated practice is necessary in learning deep breathing and deep relaxation. Repeated practice is also necessary to build strength and endurance through the positions.

If done regularly, yoga can become a part of an individual's life rhythm, so that the body comes to expect the stretch and relaxation that yoga brings. Children will start to relax just as a result of yoga beginning if it is done consistently. At a minimum it is best for children to do yoga twice a week. A 10-15 minute yoga session is best for young children, ages 4-7 years. For older children, ages 8-12, sessions can be up to 45 minutes.

### **Pacing Lessons**

The rule with yoga is not to hurry. It does not matter how much yoga is done; more important is the way it is done. The aim of yoga is to develop awareness so it must be practiced with care. If positions seem difficult or children show frustration, it is best to stop and return to an easier, familiar position. The difficult position can wait until the beginning of the next session.

It is very important to stop practicing positions with ten minutes remaining in the session so that time that is left can be used for deep relaxation.

### **Where To Do Yoga: What To Wear**

It is best to practice yoga in an area that is big enough so each student has enough room to move, lie down, and stretch without touching a neighbor.

If yoga is not done on a carpeted surface, students will each need a folded-up blanket, mat or piece of foam. This cush-

ions the spinal column and the head. A good size for mats is 3 x 2 feet.

Comfortable clothes that do not restrict movement are best. Yoga is practiced with bare feet. This helps with traction in various positions and helps stimulate the many nerve endings in the feet.

### **Group Ecology**

The most effective arrangement for maintaining student attention is a circle. The circle must be big enough for students to have their own space to move. A circle allows the teacher to be equidistant to all students, and discourages disruptions by having a student next to only two other students. The circle is also a form that unifies and helps focus attention at a single point.

When introducing a new position for students to practice, it works best to communicate how to do the position if the teacher demonstrates first to one side of the circle, then to another.

### **Modeling and Checking**

Children will learn much more about yoga by what a teacher does, rather than by what is said. They will strive to imitate what they see. Therefore, demonstrating or modeling is very, very important. Teachers can model new positions and other students can model already practiced poses. When positions are reviewed and have already been practiced, a student can be asked to come to the center of the circle and model a position. This builds memory, provides an honor for some students, and may be a more effective model. Children will more likely imitate actions if the person demonstrating is perceived as being similar to them.

Equally important to modeling is checking that positions are done correctly. After a teacher models, it is necessary to ask

children to do the pose on their own. Then the teacher can circulate to check each child. If children are having difficulty, teachers can actually place children's bodies in positions. Children can be encouraged to help each other.

Yoga is fun but it does require attention and discipline. It is important that positions are done correctly for maximum effect.

### Motivation and Management

Yoga positions imitate objects and animals that are familiar to students. Children's interest can be enhanced by showing pictures of these objects and animals (e.g., a lotus flower, a bow, a cobra, a lion, a fish, a woodchopper, a table, etc.). Also motivation is heightened by talking about the object or animal—where it is usually found, how it is used, etc. For example, to introduce a cobra, a teacher could tell what a cobra is, where they live, and how they move, encouraging children to do the position slowly and silently like a cobra.

One sitting position can be used throughout a lesson for group management. This position is the rock. It is accomplished by sitting tailor-fashion on the feet, bottom resting on soles of feet. After you model a position and then circulate to check how children are doing, the noise level increases as well as non-directed movement. Simply say, "Who can sit like a rock first? Remember rocks are silent and still." A variation of this is to actually bring a rock to class. Place the rock in front of a child to see how fast the student can sit like a rock. The child with the rock can be praised and given a hand. Another variation is to give an award for those sitting like a rock quickly. The rock sitting position works to regain attention and does not seem to wear off.

Feedback is essential to teaching anything, especially yoga. Specific praise that mentions the correct thing that a child is doing smooths group management and is a good teaching tool. (Examples: 'George is sitting still like a rock. That's

perfect, you have your hands around your knees and you are rocking like a horse.") Touching children when praising enhances the motivation of the words.

### Vocabulary

Some words are used in lessons that children may not be familiar with. Teaching the necessary vocabulary before a lesson will make sure children know what you mean and will lessen confusion.

Some of the unfamiliar words are: lungs, exhale, inhale, squat, thigh, grasp (as grasp your leg), interlace (as interlace your fingers), soles (of feet), palms, extend (as extend your leg or extend your arm).

### Basic Teaching Goals

There are three basic teaching goals in yoga lessons. The first is to teach children to sense changes and feelings in their bodies, to turn their attention inside to feel what is happening. The second is to teach children to actually talk to their bodies to become relaxed. The third is to teach children to picture images with their eyes closed as another tool for relaxation.

### Summary of Teaching Pointers

A lesson follows the following sequence:

1. Name Position. Talk about name of position to heighten interest.
2. Model position to both sides of circle.
3. Ask children to imitate.
4. Circulate to each child checking position and placing child's body in a position, if necessary.
5. Specifically praise attempts and correct positions.

6. Use rock position to regain attention for next model.
7. Praise first student taking rock position.

**Other pointers:**

- \* Practice positions before you present them.
- \* Schedule regular yoga sessions; 2 a week, 35-45 minutes.
- \* Don't hurry.
- \* Use second lesson of week to review and present material did not have time for the first time.
- \* Stop instruction 10 minutes before sessions end for deep relaxation.
- \* For preschoolers, do yoga 10-15 minutes a day and split up lesson.
- \* Do yoga in a spacious area, outside if possible.
- \* Provide mats for students to protect their spines.
- \* Wear loose fitting clothes. Be barefoot.
- \* Arrange children in a circle.
- \* Review necessary vocabulary before a lesson.

### Rock Sitting Position

"Sit on feet with knees bent and legs together. This is called sitting like a rock."

Practice getting in and out of this position several times, so that when you say, "Sit like a rock", children know what you mean. This can be used as a regrouping position when children are too involved in movement or talking to pay attention. A game can be made of who can sit like a rock first. It would be good to use a quiet voice to teach children to pay careful attention to what you say.

### Hopping

"Lift one foot, now hop. (30 seconds) Now lift the other foot up and hop."

### Frog

"Squat down. Be on your toes. Put your hands on your head one on top of another. Now jump around like a frog. Grivet. Grivet."

This one improves posture and strengthens knees, feet and ankles.

### Flat on Floor

"Stand tall with both hands above your head. Stretch as high as you can. Try to reach the ceiling. Now bend down and touch the floor. Try to put your palms flat on the floor. Keep your knees straight."



### Cat

"Kneel. Put hands out in front of you on the floor. Push bottom up, so you are on all fours like a cat. Put your head up and inhale through your nose, mouth closed. Stretch your neck way back. Have your back sink into a curve.

Now lower your head, exhale through your nose, mouth closed. Put chin to neck. Push your back up. Hiss like an angry cat."

Repeat this several times. Talk to children about stretching slowly as a cat does. This exercise relieves cramped back and neck muscles.

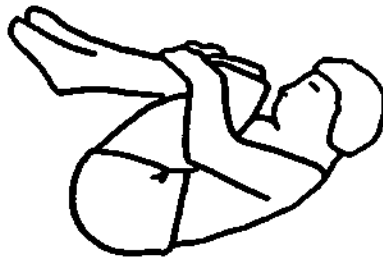
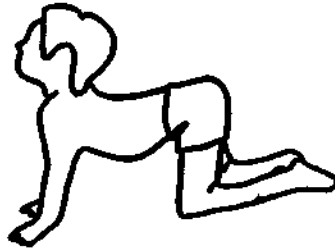
### Rocking Horse

"Bring knees to your chest. Surround knees with your arms. Put head against knees. Now rock backwards and forward."

Continue this for 30 seconds. Some children may need assistance rocking.

### Lion

"Kneel on floor and sit on your feet, knees together, hands on sides. Lean forward, as if you are springing like a hungry lion. Put your hands on knees and stretch

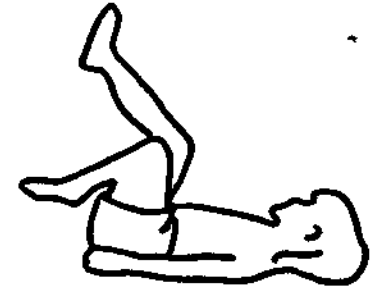


out fingers. Open eyes wide. Open mouth as far as you can. Stick out tongue and try to touch your chin. Say ahhhhhhh."

Repeat several times; substitute any noises that a lion might say or that students suggest.

### Ride Your Bike

"Lie down on your back. Lift your legs. Move them in circles like you are riding a bike. Now move your hands in a circle, too. Now laugh. What's so funny?"



### Butterfly with Legs

"Sit up. Bring feet together. Hold your feet with both hands. Pull legs towards your body as far as you can. Bounce knees up and down. Fly away."

Continue this for 30 seconds. You can talk about where you are flying to. This is a good leg strengthener and stretcher.



### Wood Chopper

"Stand up straight with your legs apart. Put your hands out straight in front of you. Interlace your fingers. (Model this.) Inhale. Now raise your arms up high. High up



there. Exhale and swing your arms through your legs, keeping your hands together. Imagine your arms are an ax, coming down fast to split wood."

Repeat three times.

The woodchopper releases excess energy, and keeps the spine flexible.

### Rock-A-Baby

"Sit with your legs stretched out in front of you. Grab one foot with your hand. Bring it up and rest it by your elbow in your other arm. Wrap your arm around your knee. Put your hands together interlacing your fingers. Rock your leg back and forth." (Continue about 20 seconds. Repeat the other leg.) "Pretend your leg is a baby and you are rocking it to sleep. Shhh."

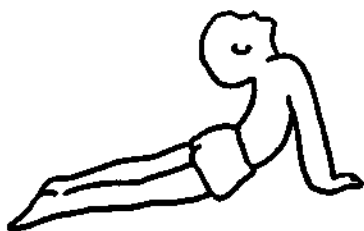


This one is good for hips, knees, and ankles.

### Cobra – The Snake

Explain that a cobra is a kind of snake. Explain how snakes move slowly and steadily to stalk their prey. Ask children to imagine that they are a snake very slowly and very silently raise their head out of the tall grass so that they can see what is happening.

"Lie on stomach with your feet together. Your head is on the floor. Put your hands on the floor under your shoulders, palms down. Inhale. Slowly lift your head.



Then slowly lift your chest off the floor as far as you can. Stretch your neck back. Look up. Exhale. Hold while I count to five. Now slowly come down. Lowering your back and then your head. Rest."

Repeat two or three times. On the last one have children hiss-s-s-s-s. It is important that children do this slowly. It may help to count to 10 as they go up and count to 10 as they come down. Make a game of how slowly they can do it. "Many times we try to do things fast. This time we are going to see how slowly we can do something. It will be hard."

The cobra strengthens the lower back and neck. The cobra increases energy through improved circulation and at the same time brings relaxation.

### Eye Exercises

"Sit with legs crossed. Straighten your back. Now keeping your face still, slowly look to your right. Slowly look to your left. All the way over. Right again. Left. Right. Left.

Now look up, down, up, down, up, down, up, down. (Say this slowly with pauses in between each direction.) Now make big circles with your eyes, keeping your head still.

Put the palms of your hands on your eyes. Rest. (Hold 30 seconds.)"

### Neck Stretch

"Sit cross-legged. Inhale. Move head to right shoulder. Bend and stretch your neck as far as you can. Exhale. Hold neck there (5 seconds). Bring head up. Inhale. Move head to left shoulder. Bend and stretch your neck as far as you can. Exhale. Hold (5 seconds). Bring your head up. (Repeat 2-3 times on both sides.)

Now make big circles with your neck. Round and round and round. Don't turn your face, just your neck. Now let's go round and round the other way."

The idea is not to move the face, but to have the neck really stretched. This exercise relieves tension and stiffness in the neck.

### Ballet Dancer

"Sit with your legs in front of you. Bend your right knee and rest your foot on your left thigh. (Now children should have 90° angle made by legs.) Raise your arms high above your head. Stretch up very high. Make your back as straight as you can. Imagine there is a pole down your back. Inhale. Slowly bend forward, keeping your back straight as long as possible. Keep imagining that pole down your back as you bend forward. Hold stretch. Exhale. Slowly come up with your hands above your head. Rest. (Repeat with opposite leg.)"



### Fir Tree

This is readiness for balancing positions.

"Stand on your toes. Hold your right hand up as high as you can. Stretch your other arm down. Imagine you are a tall fir tree. Hold as I count to five. Now switch. Hold your left hand up high, high. And stretch your right hand down. Hold as I count to five. Now try both hands. What tall trees."



### Back Scratch

"Sit cross-legged. Bring your left hand behind you. Reach over your shoulder with your right hand and try to touch your other hand. Hold and pull your hands together while I count to 5. (1,2,3,4,5). Let go. Rest. Now switch hands. Bring your right hand behind you and reach over your shoulder with your left hand and try to touch your other hand. Hold and pull your hands together while I count to 5. (1,2,3,4,5). Let go. Rest."



If students are having trouble reaching their hands behind their backs, children can hold a piece of cloth or handkerchief with both hands and pull on that.

This is a good exercise after sitting a long period of time since it relieves tension in the back.

### Giraffe

This may be a difficult one to explain. Modeling will be very important. To stimulate interest, you could talk about giraffes and the importance of their necks to reach their food.

"This giraffe exercise will help you keep your neck feeling good. Lie down on your stomach. Lift your head up and hold it with your hands. Put your head down. Now put your hands on top of your head and push down slightly.

Raise your head. Put your chin in your right hand and your left hand on the back of your neck. Push your chin to the right side with your right hand. (Hold it several seconds.)



Now change hands. Put your left hand on your chin. Your right hand on the back of your neck. (Hold several seconds.) Now put your head straight down and rest."

### Elephant Trunk

"Sit cross-legged. Put your hands out in front of you and then put one arm on top of the other one. Turn your palms towards each other and interlace your fingers. Now bring your hands down under and then up through your arms toward your face. Hold while I count to 5. Swing your trunk back and forth."

Repeat this several times. If children find this difficult to do, ask them to loosen their fingers. The elephant trunk strengthens the fingers and keeps the wrists and elbows flexible.



### Tree

Before you start this position, it might be good to talk about balance, what it means, and what are examples of balance. As a warm-up to give children the idea, you could ask children to balance on one foot and then the other.

Then ask children to pair up. Ask one child to stand directly behind the other. Explain that we are going to begin a balancing exercise. The behind partner is going to help the other one balance. The behind partner puts hands on the front partner's back to help front partner from weaving around. These are instructions for front partner.

"Try to balance on your left leg. Lift your right



foot up and put this foot on the upper part of your left leg, as high as you can. Now put your palms together, fingers pointed up. Slowly raise your arms over your head. Hold while I count to five. Imagine you are a tall tree. Your hands are the leaves and your bent leg is a twisted branch.

Now let's try it on the other foot. Balance on your right leg. Lift your left foot up and put your foot on the upper part of your right leg, as high as you can. Put your palms together and raise them above your head."

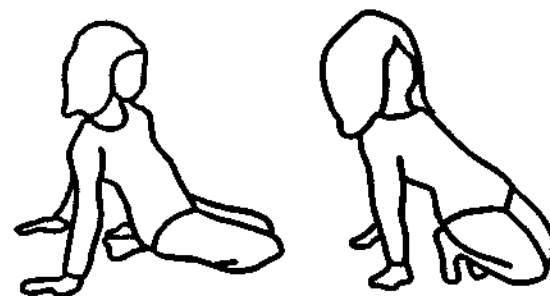
Switch partners. If it is clear that children can stay balanced with no help, of course, the partner is not necessary. Use your judgment. It may help balancing if children fix eyes on a stationary object.

The tree is a strengthener of legs, ankles, and feet. It is also good for balance, concentration, and spinal-column stretch.

### Rock on Feet

"Sit like a rock. Put your hands behind you, touching the floor with your hands. Rock back and forth on your feet (30 seconds). Come sitting like a rock again. Now curl your toes under and put your hands behind you again. Rock again. (30 seconds). Come sitting up again. Rest."

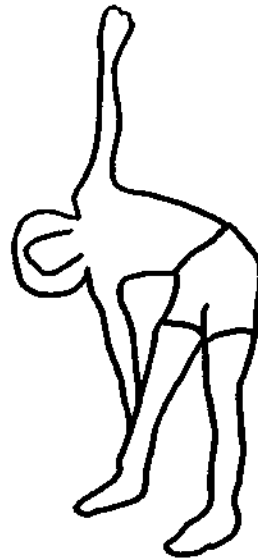
This position helps circulation in feet and helps keep toes flexible.



### Triangle

"Stand up. Put your feet way apart. Raise your right arm high above your head. Put your left hand on the upper part of your left leg. Bend to the left, slowly moving your right hand down your leg. Other arm is straight. Go down as far as you can, but stop if it is uncomfortable. Hold while I count to 5 (1,2,3,4,5). Now slowly come up. Take a deep breath. (Repeat other side)."

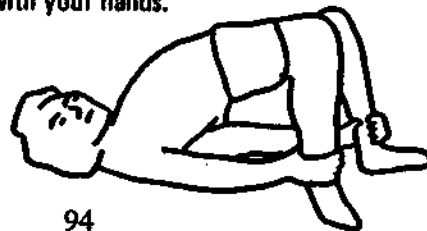
Make sure that children do this slowly. Also insure that children don't lean forward, but actually bend to the side. This exercise helps relieve tension in the neck and gives a fresh supply of oxygen to the brain. It works on thigh, calf and hamstring muscles and increases the blood supply in the lower back.



### Bridge

"Lie on your back. Bend your knees. Bring your feet close to your body. Hold your ankles. Push your stomach up keeping the head on the ground and feet flat on the floor. You can now let go of your ankles and put your hands under your back right at your waist. Hold while I count to 5 (1,2,3,4,5). Imagine you are a bridge over a river or a bay. Now very slowly come down."

The bridge position strengthens arms, legs, and spinal column. It is a terrific stretch for upper legs. You can help children by straddling them and supporting their backs with your hands.

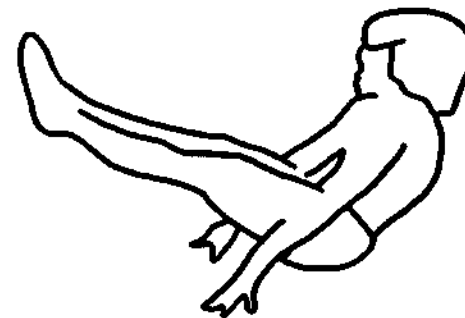


### Vee

Motivation for this position could be heightened by talking about words that 'V' occurs in.

"Let's see if you can make the letter V with your body. Sit with legs in front of you. Raise legs keeping both legs straight and together. Stretch hands out straight. Touch the floor close to legs with fingertips to maintain balance. Hold while I count to 5 (1,2,3,4,5)."

The V strengthens the hips and abdomen.



### Crow

"Sit like a rock. Put your hands in front of you on the floor. Palms on the floor. Put your head on the floor a little in front of your hands. Now pick up one knee and rest it on top of your elbow. Pick up the other knee and rest it on top of the other elbow. Try to balance for a short while."

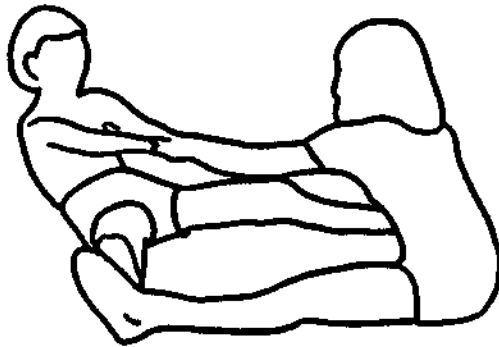
This should be practiced on a cushioned surface. Partners could help each other with balance. Hands are apart the same width as the shoulders. Heads and hands should form a triangle. This is the beginning of a head stand.



### Partner Stretch

Have children pair up. Partners sit facing each other.

"Stretch your legs apart. Put your soles of your feet together. (Point to your sole as you say this to explain word. If one partner is shorter than the other, one can put feet inside the other one's legs.) Hold hands. One partner leans all the way back laying on the floor, pulling your partner with you. Now the other partner lays down. (Continue back and forth a bit.) Now move around in a circle. One way and then another."



### Deep Relaxation – Reverse Sponge

Ask children to lie on their stomachs head to one side. Feet are comfortably apart. Palms are to the sky. Eyes closed.

Talk children through deep breathing and body relaxation as on page 68. Take your time. Try the following guided imagery when they are settled and relaxed. Talk slowly. Pause frequently.

"You have walked out of your house. You are going on a walk. Beside you is someone you like very much. Look to your side. See this person. Think this person (Pause) You look up and the sky is very blue. See blue. You walk along. Soon you stop. Near you is a tall green tree. You look up. You see the branches, the green leaves. The wind is blowing the leaves. See this tree. (Pause) Keep your eyes closed; see the tree in

your head. (Pause) There is a red balloon tied to a string. You are holding the balloon. You let go and the balloon flies away. You watch it until it becomes very small. Off it goes flying away."

Hold relaxation another 3-5 minutes.

"Now wake yourself up. Rub your hands together. The soles of your feet. Roll side to side. Come sitting up."



### Story with Lion, Cobra, Cat, Tree and Table

Choose one child to be each of the "characters" in the story: a lion, a cobra, a cat, a tree, and a table. The characters come to the center of the circle and sit. Each child in an individual space. Instruct characters that when you say the name of the character that they are, the one child that is that position does it. You could practice before the story, saying names of positions in random order, to make sure that children understand. When they have it down, begin reading the story. . .

The *cat* was sitting on a *table* near the window. The *cat* was looking out the window longing to be out in the wild woods. The *cat* sitting on the *table* had always wanted to be a *lion* out in the woods.

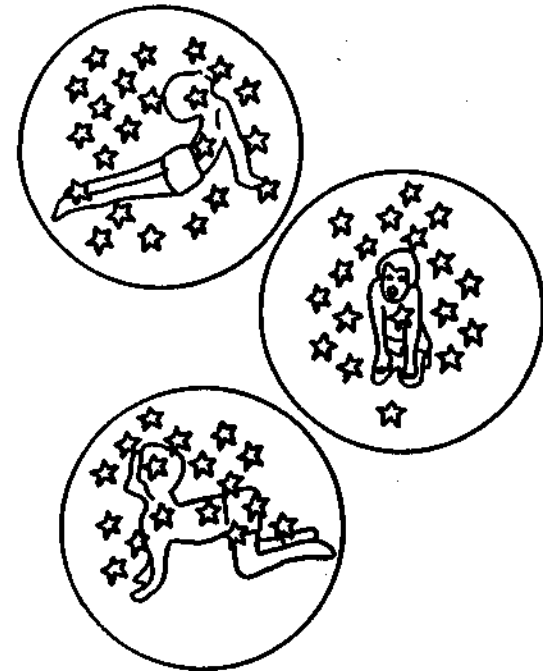
Soon the *cat* on the *table* drifted off to sleep. The *cat* began to dream it was sleeping under big dark *trees* in the wild, fiercesome jungle. But what do you suppose? The cat was no longer merely a house kitten, but had turned into a . . .you guessed it. . .a *lion*. The *lion* awoke and started stretching and rolling and yawning and rolling its eyes. All of a sudden, the *lion* looked up and a *cobra* moved fast toward the *lion*, as if to bite. The *lion* was very afraid because *cobra* bites can be deadly. The *lion* started running, running from the *cobra*.

Soon the *lion* was the *cat* waking up on the *table*. The *cat* was glad it was no longer a *lion* in the woods. Now it was safe. No *cobras* lived in this house.

### Awards for Remembering Positions

Duplicate on heavy paper, or glue to heavy backing. Color or let children color.

Use scotch tape or a safety pin to adhere to student's clothes.



## RESOURCES FOR TEACHING YOGA

There are a number of yoga books written with children in mind. These are. . .

Carr, R. *Be a frog, a bird, or a tree*. New York: Harper Colophon Book, 1973.

Cohen, K. *Imagine that -- a child's guide to yoga*. Santa Barbara: Santa Barbara Book, 1983.

Dass, B. D. *A child's garden of yoga*. Santa Cruz: Sri Rama Publishing, Inc., 1980.

Diskin, E. *Yoga for children*. New York: Warner Books, Inc., 1976.

Terkel, T. *Yoga is for me*. Minneapolis: Lerner Publications Co., 1982.

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<sup>2</sup>N. C. Kephart, "Perceptual-Motor Aspects of Learning Disabilities," *Exceptional Children* 31(1964):201-206.

<sup>3</sup>C. H. Delacato, *The Treatment and Prevention of Reading Problems: The Neurological Approach*. (Springfield, Ill.: Charles C. Thomas, 1959).

<sup>4</sup>M. Frostig, "Visual Perception Integrative Function and Academic Learning," *Journal of Learning Disabilities* 5(1972): 1-15.

<sup>5</sup>S. Kirk, "Illinois Test of Psycholinguistic Abilities: Its Origins and Implications," in *Learning Disorders Vol. 3*, ed. J. Hellmuth (Seattle: Special Child Publications, 1968).

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<sup>7</sup>D. D. Hammill, "Assessing and Training Perceptual-Motor Skills," in *Teaching Children with Learning and Behavior Problems* (2nd ed.), ed. D. D. Hammill and N. R.

Bartel (Boston: Allyn and Bacon, 1978).

K. Kavole and D. P. Mattson, "One Jumped Over the Balance Beam: Meta-Analysis of Perceptual-Motor Training," *Journal of Learning Disabilities* 16(1983): 165-173.

8A. O. Ross, *Psychological Aspects of Learning Disabilities and Reading Disorders*. (New York: McGraw-Hill Book Co., 1976).

<sup>9</sup>Ibid., pp. 107-108.

10S. G. Tarver, D. P. Hallahan, J. M. Kauffman and D. W. Ball, "Verbal Rehearsal and Selective Attention in Children with Learning Disabilities: A Developmental Lag", *Journal of Experimental Child Psychology* 22(1976): 375-378.

S. G. Tarver, D. P. Hallahan, S. B. Cohen, and J. M. Kauffman, "The Development of Visual Selective Attention and Verbal Rehearsal in Learning Disabled Boys," *Journal of Learning Disabilities* 10(1977): 491-500.

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H. Palkes, M. A. Stewart, and J. Freedman, "Improvement in Maze Performance of Hyperactive Boys after Training in Self-Directed Verbal Commands," *Journal of Special Education*, 5(1971): 337-342.

B. Egeland. "Training Impulsive Children in the Use of More Efficient Scanning Techniques," *Child Development* 45 (1974): 165-171.

## CHAPTER TWO

<sup>1</sup>S. P. Springer and G. Deutsch, *Left Brain, Right*

*Brain*, (San Francisco: W. H. Freeman and Company, 1981).

<sup>2</sup>Ibid.

3H. Erlichman and J. Barrett, "Right Hemispheric Specialization for Mental Imagery: A Review of Evidence," *Brain and Cognition* 2(1983):55-76.

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