THE INFORMATIVE POINTING METHOD

By Portia Iversen
INTRODUCTION

A joint attention and literacy-based approach to communication for individuals with autism

The Informative Pointing Method and this manual came about after my book Strange Son was published in January 2007. Many people contacted me after my book came out, wanting to know how they could get their nonverbal autistic child to start pointing and communicating. My own son Dov began to communicate for the first time when he was nine years old, after working with the very talented Soma Mukhopadyay and it was then that we learned he had normal intelligence. I spent the next three years observing Soma and studying her as she worked with hundreds of children, all the while struggling myself to learn how to communicate with Dov the way she did.

The Informative Pointing Method and this manual are works in progress and new material will be added frequently. I invite you to contribute your experiences, techniques and approaches as we learn together. Most readers will have found this manual on the Community website (www.strangeson.com) which is an online community that I created for families or anyone who works with nonverbal people with autism. If you are not a member already, I encourage you to join the online community where you will be able to view videos related to the Informative Pointing Method, upload your own videos to get feedback and help or to teach others. Your participation and input are essential to improving the way this method is understood, explained and taught. There are likely to be as many new ideas and modifications as there are different kinds of children with autism. And yet there also seems to be a handful of basic principles at work – it is these that I have tried to capture and convey in this manual. Some of these core elements overlap with other methods such as the Rapid Prompting Method, Facilitated Communication, Marion Blank’s Light on Literacy program, Greenspan’s Floortime approach, Relationship Development Intervention and even the Applied Behavioral Analysis model.

It is my hope that the online Community (www.strangeson.com) will become a gathering place for people who have higher hopes for their nonverbal or ‘low-communicating’ children and that the content of the site will evolve over time to include many kinds of approaches and methods that have been successful in increasing communication. In this way I hope that the intelligence of nonverbal and low-communicating people with autism will become accepted and these methods of achieving communication will become demystified and widely available.

I believe that this pointing method is as big a deal as sign language is for the deaf population or Braille is for the blind. I believe it is that universal and important for nonverbal and low-communicating people with autism. Before the development of sign language, people with significant hearing impairment were considered mentally retarded and mute, and before the invention of Braille people who were blind were considered uneducable. Today, although there is no scientific proof to support it, it is generally assumed that about 80% of people with autism are mentally retarded. This is not true. Many children with autism who have been pronounced mentally retarded have normal cognitive ability. This manual describes a communication method that can establish a connection to that cognitive ability and build a bridge toward the development of general communicative ability.
There is however, a big difference between the communication method I describe here and those I have compared it to above. For people with significant visual impairment the development of Braille provided access to literacy and an education, and for those with significant hearing impairment, sign language evolved as a unique language system that enabled them to communicate. But in autism the system that is impaired is not solely a sensory modality, though sensory disorders certainly play a major role in autism.

The thing that goes off track very early in life in autism, is the ability to calibrate, synchronize and interact with people in real time, in the physical environment. This facility is often referred to as joint attention. Therefore the communication method I am describing is most essentially based upon establishing joint attention with another person in real time in the environment. And so it does not depend upon a special alphabet such as Braille, or another language such as sign language, or even on a specific device or keyboard. What we are establishing here is the very basic language of human interaction in real time.

If I had to identify the most important key feature of this method I would say it was establishing a calibration or synchronicity between you and the child. This is what babies establish with their main caretakers, and later generalize to other people in an ever widening circle of relationships over a lifetime. The child with autism may never have experienced being calibrated with another person in real time. Achieving this calibration is what underlies every exercise and explanation in this manual. This is why it is so difficult to systematize and manualize this method, why it is so hard to teach and learn – because it is so natural and unconscious and it is normally learned before language ever emerges.

Remember when you were a kid and you saw someone riding a two-wheel bike and it looked so easy but when you tried it was so impossible to do? And you wondered how you would ever get from falling off to riding and then the first time you when you got that feeling of gaining momentum and balancing and riding. After that initial experience of “getting it” even just for a few seconds, you knew you were going to be able to do it – because you knew what it felt like. This is what it is like when the child begins to point.

Once you both feel it – the calibration and synchronicity, you’ll be on your way. This is why it is so important for the parent to learn to calibrate with the child first, so the parent will be able to teach others in the child’s life how to synchronize with the child. Much the way any infant or toddler has a limited ability to synchronize and communicate with anyone other than a few close caretakers, so the nonverbal autistic child will have to learn over time to generalize this calibration and synchronization to other people in order to communicate with them. While the child is learning to generalize his ability to communicate, it will be the responsibility of the other people to learn to calibrate with the autistic child in order to communicate with him. I will be covering how to teach this method to others in the second installment of this manual (2008).

Note: I have used the term ‘child’ when I am referring to a person of any age, and when I use the term ‘he’ I am referring to both males and females. I also use the term ‘autistic person’ or ‘autistic child”, though I realize some people will consider this politically incorrect, because the word autism is being used as a qualifier, thus the person is being described in terms of their autism. I use the term this way simply in the interest of streamlining the text and I apologize in advance to anyone whom it may offend.
PART I

ABOUT INFORMATIVE POINTING
What is joint attention?
Joint attention is the process of sharing one’s experience of observing an object or event, by following gaze or pointing gestures.

Think of a triangle. You, another person (the child) and the thing in the environment you are both attending to. This is the most basic model of joint attention. It requires that both of you look at the same location and share roughly the same meaning of the stimulus. This is the basic first step of Informative Pointing.

For reasons yet unknown, the infant who becomes autistic, loses his capacity to synchronize with people in real time, before joint attention and communication have had a chance to take hold, and with this his ability to signal others also disappears.

Somewhere between approximately 6 and 18 months, most autistic children have lost their ability to vocalize or gesture for the purpose of communication. Once this has happened the child will have to rely on himself to supply his own nervous system with the stimuli he needs to stay alive. We call this behavior stimming and it can be seen in any human or animal that is isolated from social interaction.

One caveat, when I talk about autistic children living in social isolation, it does not mean that they were in any way neglected or unloved by their families. It also doesn’t mean that they didn’t get the right kind of therapies, enroll in the right school program or that they did not receive enough hours of intervention or early enough intervention. It only means that whatever interrupts their experience starting very early in life, can render their experience of the world very different and out of sync with the rest of us. This can interfere catastrophically with their ability to share joint attention.

The good news is that most autistic children begin to show symptoms after early bonding and affiliation with people has occurred, leaving the child with all the normal desire and drive to be loved, accepted and understood. This is both tragic and hopeful but it provides the enormous advantage of having the intrinsic motivation of the child intact to drive his behavior. Building a bridge of communication will give him a way to demonstrate what he knows and who he is. That is the purpose of the Informative Pointing method.

What is pointing?

Imperative pointing is used for demanding or requesting: “Get me that!”

Declarative pointing is used for showing: “Look at that!”

Informative pointing is used for informing: “There are your (lost) keys.”

(‘12 and 18-Month-Olds Point to Provide Information for Others’, T. Striano, 2006)

The closest thing to the kind of pointing we are teaching here is informative pointing, that is why I called this the Informative Pointing Method (IPM).
How can a non-verbal child, who is severely effected by autism, be able to read and write and learn to communicate?

I believe this is due to extremely uneven development in children with autism. An autistic child’s cognitive ability - his ability to think and learn, may have continued to develop and outpaced, by years, his ability to inhibit spontaneous and impulsive behavior and his ability to generate voluntary behavior. This results in a child who may have normal cognitive ability but virtually no control over his behavior and thus no reliable means of demonstrating what he knows.

Little research has been done to investigate whether the development of complex, voluntary behavior such as social and communicative behavior is actually necessary for the development of cognition. (‘Is joint attention necessary for word learning in preschool children with autism?’, abstract, IMFAR 2007, LG Klinger, et al, ‘Intelligence in autism: what are the good predictors?’, abstract, IMFAR 2007, L. Mottron, et al).

This brings us to a very central question: although joint attention is necessary for social interaction, is it actually necessary for learning? There has been little research to date on the effects of social versus nonsocial enrichment in the environment upon cognitive development. A small number of animal studies suggest that social enrichment is not necessary for cognitive development to occur. (‘Double dissociation of social and environmental stimulation on spatial learning and reversal learning in rats’, H. Wurbel, et al, 2004, ‘Dissociable effects of isolation rearing and environmental enrichment on exploration, spatial learning and HPA activity in adult rats’, H. Wurbel, et al, 2002, ‘Early social deprivation disrupts attentional, but not affective, shifts in rats’, H. Wurbel, et al, 2001).

What kind of child can benefit from the Informative Pointing method?

Any nonverbal or low-communicating child may benefit from learning Informative Pointing. This method will not diminish the chances of a child developing spoken language and will most likely promote spontaneous speech.

I have found that many nonverbal children seem to use their auditory system more than their visual system. After studying Tito Mukhopadhyay and Temple Grandin, I concluded there are two large subgroups in autism (though there are also many variations and outliers). These are the auditory type like Tito and the visual type like Temple. The auditory type tends to be nonverbal and show little interest in visual things like videos and the computer, they also seem to do very poorly with visual stimuli of all kinds including educational and communication materials. The auditory type child is usually trying to make sense of the world by listening instead of looking and will often do better with auditory rather than visual communication and will do better when presented with written words rather than pictures. Tragically, when the auditory type child fails to develop speech, he is usually surrounded by the very visual materials that he cannot process.

Footnote 1: Read an excerpt from ‘Strange Son’ book that discusses auditory and visual types.
The child may already know how to read:
These are children who have not communicated their whole lives and yet many have learned to read and spell sometimes even on their own, unbeknownst to the people around them. This ability to read and spell, however wonderful, (and it is wonderful!), is not built on a foundation of human interaction and communication such as normally precedes the development of literacy.

Footnote 2: ‘Where is the child coming from?’

Footnote 3: Read about hyperlexia.

Consider the idea that many autistic children may have learned to read years before they learn to begin to communicate. Without having experienced the multitude of human interactions that most infants and children do, literacy may not initially be useful for the purpose of communicating. This is an important concept to keep in mind because it will help you understand why the child may be able to demonstrate intelligence and do very well academically, yet still have great difficulty communicating very simple things, like reporting his own personal experience, such as what he ate for breakfast, what he is feeling or what he wants. Understanding this concept may help ease the frustration that comes when you find your child can learn algebra but is unable to say where something hurts when he is sick.

Footnote 4: ‘Literacy, language and communication may not intersect.’

Footnote 5: ‘Neuroplasticity, learned social helplessness & intrinsic reward.’

Footnote 6: ‘Pointing on a letter board: a form of joint attention and shared meaning using a stable information system.’

Footnote 7: ‘Where to begin? The Zone of Proximal Development.’

Footnote 8: Read about ‘Scaffolding’, it’s use in education and communication.

Emotional considerations:
These children have experienced repeated failure in every situation for their entire lives. They have been talked about as if they were not there and treated like they understood nothing. They have watched countless times as they disappointed their parents, their siblings, their therapists and their friends. As they grew older they began to realize the unfairness of it all. They watched their brothers, sisters and peers rewarded and acknowledged for their accomplishments and their intelligence while the autistic child could not let anyone know that they were also smart.

Is it any wonder that autistic children react negatively to being asked to do something new? For them it is just another set up for failure. Their self-esteem has been destroyed and any demand made of them, is a powerful trigger for anxiety. Of course the most effective way to avoid failure and disappointing others, is to refuse to do anything at all.

Building trust and a relationship:
It is essential to work on forming a warm, trusting relationship from the very beginning. I will talk more about this in the section that addresses the setting and set up for your sessions.

Empathizing with the child and acknowledging what is happening with him in the moment is a very powerful bridge to a relationship – as it is with any human being. Careful observation of the child’s behavior can reveal a lot of subtle meaning, when carefully studied. The autistic child has never been very well understood by anyone, not even by those who love him dearly. Empathy and acknowledgement can go a long way. For example, if the child suddenly looks up and you notice a plane going over, say: “I hear the
plane too. Now let’s get back to work.” Acknowledge and return to what you are doing.

Noticing what he likes can go a long way too. “I see you really like holding your rock.” The child will often give you a look of amazement if you simply comment on whatever he is interested in (or obsessed with). Who doesn’t like being understood?

**Attitude**

Your attitude is extremely important. Consider yourself to be a beloved sports coach. This was Tito’s psychologist, Dr. Smithyman’s very insightful observation about Soma’s approach. As a coach, you are hands-on, constantly guiding, supporting, teaching and encouraging – and at the same time you are making constant demands and have high expectations. Start with the pep talk. Reassure the child that you know he is smart. Give the child respect. He will really appreciate it. You might say something like:

“I realize you may already know this, but we’re just trying it.”

“You probably already know this, but we’re just practicing.”

“I know you are smart, go ahead, just try it!”

**What about rewards?**

Believe it or not, the child will find the experience of working with you and being successful so rewarding in and of itself that no extrinsic reward will be needed.

It is your job to make sure there is never a failed session, and only successful sessions with the child – even if you don’t feel that way about it. What should be considered ‘success’? Any time you connect with the child, you have had success. The more times in a row, the better. Over time, these successes will begin to add up to fill the huge gap in social experience, caused by years of missed opportunity for interaction. You’ll soon find the child actually enjoying their sessions with you and even leading you by the hand to begin the session. You’ll find that the time the child will sit and attend is increasing. In the beginning a session might be ten minutes long but soon it will become thirty minutes and eventually an hour and even more.
PART II

THE SETTING AND THE SET-UP
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The physical setting:
I opt for comfort, and prefer to start out sitting on a couch and I frequently use a lap desk, the kind with a plastic top and something like a beanbag underneath. This allows you to place the work surface on your lap and the child’s lap at the same time (slightly to their right). It also allows you to slant the desk surface upward slightly, like an easel at a very moderate angle.

Keep food, toys and other distractions away from the area where you are working—especially at first. Try to avoid an environment with a lot of distractions like people talking or walking by, helicopters, sudden, loud, sounds like sirens or babies crying, vacuum cleaner, drill, repetitive beeps, etc., and distracting visual stimuli like flashing or flickering lights, moving water or high contrast images such as checkerboard or repetitive patterns of dots, stripes, etc. These distracting, attention-grabbing stimuli are hard to compete with.

Where should you be in relation to the child? Always sit on the child’s right side. This is very important. Ask others to do the same when they attempt to communicate with the child. I discovered this by observing Soma working with children and viewing many hours of videotape of Dov and other autistic children. Sit on the child’s right, hold the letter board or keyboard slightly to their right and have the child “rest” their left hand. It is okay if they are holding their stim item in the left hand. Glancing is fine, but if the urge to stim or stare at the object constantly is overwhelming you can try putting a big pillow in their lap, over the left hand and the alluring object it is holding to block vision of it. Most kids won’t mind this, and it helps them resist the stim yet hold on to something to alleviate anxiety and to keep their arousal level up which is necessary to initiate voluntary movements such as pointing. This is an important concept to keep in mind. You will have to judge if allowing the stim item in proximity is helpful or too distracting, this can even vary between sessions.

Have the child use their right hand. Many nonverbal autistic children do not show a hand preference so it is best to use the right hand because it is wired to the left brain where language is. Some children will use their left hand just slightly more than their right hand, in this case I would still use the right hand for pointing and have the left hand at rest. If a child is almost certainly left-handed then I would make an exception. Unfortunately this is a determination that can be almost impossible to make, and in all indeterminate cases I would stick with using the right hand. In the rare instance that you are extremely sure the child is truly left-handed, follow all the same instructions including sitting on the right side, but activate the left hand. If you are not sure which is the child’s dominant hand, assume it is the right hand and use the right hand for pointing.

The reason sitting on the right is helpful, is most likely related to the uneven timing in the development of cross-hemispheric connections in the autistic brain, which research is only now beginning describe, (‘Children and Adolescents with Autism Exhibit Reduced MEG Steady-State Gamma Responses’, Rogers, S.J., et al, 2007, ‘Short-latency somatosensory evoked potentials in infantile autism: evidence of hyperactivity in the right primary somatosensory area’, Kuroda, Y., et al, 2007, ‘Corpus callosum morphometrics in young children with autism spectrum disorder’, Dager, S.R., et al, 2006). Regardless of why it helps so much, you will have far better results if you consistently sit on the child’s right side. I cannot emphasize this enough. I think it is one of the most important things you can do to make this method work.
Dov’s teacher Jill told me that she found sitting close to the child helped at first, so that she was in physical contact with the child. She felt that the body contact helped give the child more of a sense of their own body. Again, every child will be different and many things are worth trying until you find the right combination.

**Intentional pointing:**
It is essential to make sure that each point is intentional. This will make or break whether the child learns to point accurately, becomes independent and is believed by others. To do this you must make sure that the eyes are leading the hand in each pointing event. Some children will naturally keep their pointing hand near the visual target area (i.e., at the letter board). This is okay if the child’s eyes precede his hand. If the eyes and hand become disconnected you may need to gently pull the hand away from the visual target in between each letter or choice (if multiple choice). This is not hand support. This is simply removing the hand from the area until the eyes can choose the next target, followed by the hand pointing at it.

Some children will have a tendency to switch hands while pointing, using the right then left and so on. This will prevent the Informative Pointing method from working. Always encourage the child to use his right hand. If the left hand begins to point, gently rest it on the left side and say “Use this hand.” Tapping the right hand/arm. In most cases, at least in the beginning, two-handed pointing will only confuse and frustrate the child. It is possible to move on to two-handed pointing later and I will be talking about this in the second section of this manual, but for right now there is a lot for the child to learn to do and using two hands will not allow him to get control of looking and pointing together in the beginning.

**Preparation for a session:**
Be 100% prepared! Whether it is an academic lesson, personal communication or a game you must have everything you need at arm’s length and ready to use. Your attention must not be diverted by anything else but interacting with the child. For the same reason, shut off your phone and try to go somewhere that is out of the way of other people’s questions and demands.

Even a casual interaction with another person, something most of us would barely notice, can break your connection. It is difficult enough to make the connection with the child, to find his timing, pace yourself and stay connected for longer and longer periods of time. Breaking away from the connection you have established, to find a marker, paper, a clipboard, a toy, a treat or to answer someone else’s question will be very counterproductive.

**Making materials on the fly**
This does not contradict the concept of being 100% prepared! In fact it means you must be prepared physically with supplies and mentally with plans of what you are going to do. The child will take much more notice of the things you write or draw in real time - but do it quickly! One mistake people often make is turning away to create materials.

**Lap desk:**
A lap desk is a very helpful item when you are first getting started. A lap desk allows you to sit close to
the child in a comfortable situation like on the couch, floor or bed. It should be positioned between the two of you (which is slightly to the child’s right), and tilted slightly upward creating a vertical plane to write and display things on. A clipboard is also very helpful.

Table or desktop:
If you sit at a desk you may want to use a small, lightweight plastic easel like the kind used for prop- ping up pages while typing or for a cookbook. Some children don’t need this, but most do. This is because most autistic children tend to look up or away, off to the side or straight ahead. To get an idea of what it is like for the autistic child, try looking straight ahead and seeing what is on the table below (without looking down). It’s very out of focus.

The communication bin:
I suggest you make up a communication bin. This is a plastic tub that contains the materials you will be using during your session, examples are: magnetic letters and a magnetic board, a small whiteboard and dry-erase markers, a laminated QWERTY letter board, index cards, a clipboard, paper, and some markers. I recommend trying Sharpies - they make a scratching sound when you write with them and they have a strong smell too. They also make a great ‘tapping’ sound when you tap your visual target. You may want to keep some special items that the child loves, for example dominos or marbles, in your communication bin and use them only during these sessions. You can play lots of communication games with these items, such as 21 questions, etc. - more about this later. The communication bin will become associated with fun and a special time with you.

Children with autism usually have very uneven development across many systems. What you will notice about the communication bins here is that they contain a wide range of items in terms of developmental level. They range from age-level books, newspapers and word games to much younger toys and objects. But first and foremost, the communication bin should always contain one or more ways to communicate - a laminated letter board, a voice output device, a computer keyboard and always a clipboard with paper and a Sharpie to write down your conversations. We also use the clipboard or white board to play word games or for multiple choice questions to get a conversation started. And there is another important function served by the clipboard: by writing down your conversation, including your name and the date, the next person who spends time with the child will be able to learn what you talked about and did together and use this to share the child’s experience and get the next interaction/conversation going.

I often start a session by asking Dov how he feels on a scale of 1 – 4, I ask about his mind and his body, and then try to get more specific about what is bothering him, if anything. After that I ask him what he wants to do, for example I might say: “Choose T for talk (meaning communicate), R for read or S for something else”, etc. If he chooses R for read then I would ask which of the two books in the bin he wants to read. If he chooses S for something else, then we’ll play twenty questions until we get to what that is. I always give choices and let Dov take the lead in what activity he wants to do. If he is having a rough day and stimming a lot I might turn both our attention to the object of the stim and then ask multiple choice and ranking questions about that, so no matter what, we are practicing communication.
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BIN #1
This bin includes a book called “Leo the Late Bloomer”, it’s for younger kids but Dov still loves it. I read it to him and we chat about the story and the pictures as we go. We also have a more age-appropriate book in the bin called “Feelings” for middle-schoolers which we may read from and talk about. There is also a photo album from a family holiday a few years ago and he enjoys looking at the photos and communicating about the people he knows and what we were doing. There are also some coins which Dov likes to play/stim with, and if he chooses them I may ask some questions about the coins or we may play a game with them or do some math.

BIN #2:
This is a communication bin I might use when we are going to also practice speech. It contains some blowing instruments, which we will incorporate into our session. Dov is very motivated to speak and continues to practice daily and make gradual progress. I have the usual clipboard, paper and Sharpie and the laminated letter board for communicating. Dov like I Spy cards so we may talk about the pictures, maybe even play the game (or maybe not). There is also an age-appropriate book about famous scientific discoveries, which we may read and discuss (Dov likes science).

BIN # 3:
This is the kind of bin we might use with Dov today because now he usually enjoys sitting for long periods, reading and discussing an age-level book or the newspaper or just chatting. (Tip: tape a card in the back of chapter books you are reading and record what page you read to and the date, for the next person). The bin will always include a means to have a discussion (the LightWriter voice output device in this case) and a clipboard to record the conversation.
Behavior, a practical discussion:
I observed that Soma ignored behavior entirely and instead interacted exclusively with the child’s cognitive abilities. Doing this reduces confrontation and focuses on what is going on in the autistic child’s mind instead of their disordered behavior.

What about stimming?
If the child is obsessed with a stim item, a rock or beads for example, let them hold on to this in their left hand only. If they start to flip the beads in front of their eyes, to the point of disrupting the session, ask the child to “rest your hand.” Then gently but quickly direct their left hand to ‘rest’ on the couch, by the child’s left side. If the stim item has ended up in the child’s right hand, ask him to “put it in your other hand” and then get them to ‘rest’ their left hand. Surprisingly, children will usually respond positively to these requests because they want to do well and enjoy their session with you. They will usually accept any non-oppositional directive (emotionally neutral suggestion) that helps them stay in control and keep interacting with you.

Jill reminded me that in the beginning sometimes verbal prompts i.e.: “Rest your hand”, can be distracting and that she usually used physical prompts instead, such as gently moving their left hand over to the left and holding her left hand over theirs, or even lightly tapping or massaging the left hand to keep it occupied and from disrupting the pointing.

What to do when the stim gets in the way of all interactions:
If the stim item becomes the entire focus of your interactions with the child, there are two possible courses to take. One is to give the child a five-minute break to do whatever they want. This should be done with a verbal acknowledgement of the situation, “I see you really want to play with those beads, don’t you?” You may get a nice affirmative head nod or even a verbal “Yeah!” and “Would you like to take a five minute break to play with your beads?”

Ask the child if they want to do this – they may not. You can ask the child if they would like you to get rid of their stim item for a while, and keep it safely nearby, reassuring them they can have it back soon. If the child is willing to give up the stim item for even a few minutes he will most likely feel anxiety and gesture or refer to the item repeatedly. To the degree that you can anticipate this anxiety and respond to the child’s attempts to communicate it to you, by reassuring the child repeatedly, “I know you want your beads,” you can ride the wave ahead of a full blown anxiety attack or power struggle. “You can have them soon, when we’re done with this part.” Another example: “I see you want your rock and I am going to give it back to you right after we do this, I promise.” Or, “You want your rock, don’t you? Can you wait five more minutes?” Surprisingly, the child will usually say yes. Always follow through on your promise to return the stim item after the time is up – unless of course the child is on a roll, enjoying interacting with you so much that he forgets about the
beads for an even longer period of time than you promised to keep them aside.

Another possibility to consider is that the child may actually want to get rid of the stim item for a while and you can help him do that. As you can see, there is a rich opportunity to have many meaningful interactions about the high arousal stim object itself!

**A note about working with the super-active child:**
For a student who is simply moving around so much that it is extremely difficult to get in proximity to him to work together you may want to work in a small, contained environment at first such as a very small room with a desk against a wall in a corner and both of you sitting side by side at it, facing the wall. With a super active child you may want to limit the items in this small room to only the teaching items you need for the session. As the child begins to succeed and enjoy working together you will be able to move out into a more complex environment again.

Another kind of problem – the child actually avoids looking and even when he does look, you can’t get his hand to the visual target before his eyes have looked away. I worked with a little 4 year old boy named Johnnie whose eyes would roll around in such a way as to look everywhere but at the visual target, all the while his hands were off to his sides doing all kinds of tricks, flapping and moving about and all the while running around the room. When I noticed this I said: “Hey, I see what you’re doing! You’re looking at everything BUT the letter ‘A’!” At this little Johnnie began to laugh so hard I thought he’d fall over. Johnnie was a tough nut to crack – he never stopped moving and he had learned to avoid looking directly at anything. But what made it most difficult to get Johnnie started pointing, was that when he did finally focus on the visual target for a fleeting moment – his eyes left the target before I could get his hand to it. What to do? This is the kind of situation where you may have to start by getting the child to point to a visual target simply by its physical location – where it is in space – even without looking at it – at first. I’ll describe this more in PART III, the “Hands-on” section.

**A note about bigger kids, adolescents and adults with more severe behavior problems:**
For larger, more truculent kids, such as teenagers or adults with aggressive behavior, you may need to seat the student in a chair at a table and stand behind him at first, or until trust is gained. I suggest wearing long sleeves when working with a child who has aggressive behaviors and removing yourself immediately from proximity of the child if he becomes violent. You have to be very alert and prepared to move quickly enough to avoid aggression in this kind of situation. Most kids and adults with autism will not require that you stand behind them at first and the only reason I mention it here is because if you have an older child or adult who is aggressive and you don’t know how to get started with him, this is a way to do it.

**Snapping a kid out of a frozen state:**
There is another completely different reason to let the child hold the stim item in his left hand – he may need to be able to feel or see the stim item in order to keep his arousal up high enough to point. Sometimes when a child is being very compliant, his arousal will get so low that he will become almost paralyzed. I have seen this happen many times with Tito, Dov and other children, when they are very compliant and self-controlled and suddenly they are frozen and cannot continue pointing.

This frozen state may occur more frequently in older children and adolescents with ASD, possibly reflecting the 17% who suffer from some form of catatonia, with onset in adolescence or early adulthood (‘A systematic examination of catatonia-like clinical pictures in autism spectrum disorders’, Wing, et al, 2006)

Tapping on the visual target is sometimes enough. Moving the letter board very rapidly toward the child's face and away again can also work. Verbal prompts that are short and loud can sometimes help, such as “C’mon!” Calling the child’s name does not usually work. Dov’s teacher Jill says she often massaged the child’s right hand/arm, or “jiggled” it to snap him out of a frozen state. You may need to do all of the above. Experiment and when you learn what works always do it quickly to bring the child back on track.

**What about “looking”?**
It is a frequently made mistake to assume that eye contact equates with joint attention. “Look at me!” This is the refrain that begins almost every therapy session with an autistic child. I advise against it. Many autistic children do not look directly at people.
This is generally interpreted as a lack of interest in social interaction. Many autistic children also may not look at something you are trying to direct their attention to. This is generally interpreted as a failure to engage in shared attention. When you try to interact with an autistic child you will probably experience both of these things. They are trying to get information in the best way they can.

It has been consistently reported by people with autism that it is uncomfortable, distressing or even painful to look a person in the eyes. Further, many autistics report that when they concentrate on looking they cannot hear, and conversely, when they concentrate on listening they cannot see. In fact, it seems that this splitting of the senses may be attentionally modulated. In other words, the more the child tries to understand, the more he must either look or listen. It is a frequently made mistake to assume eye contact equates with joint attention, when actually looking at someone is not a form of joint attention to a shared object of interest.
PART III

HANDS ON
**Informative Pointing: the eyes must lead the hand**

I believe that the autistic child’s eyes will reveal his intention if you can get him to visually attend to a visual target and that with some initial physical and verbal prompting, the child can learn to initiate the movement of his hand/arm to indicate what his eyes are telling us. Once successful, this will signal the beginning of the development of joint attention and communication for the child.

**How I discovered the critical eye-leading-hand connection:**

My friend, infant development researcher Carole Sprouse once told me that some of the children she sees answer with their eyes first, but not their hand. She often says to them: “I see you answering with your eyes, now get it with your hand.” -- and they do. This gave me the idea to carefully observe autistic children when they are trying to point to see whether the eyes were leading the hand – and I saw that the eyes were often looking at the correct answer but the hand was not following their gaze. This observation has turned out to be central to teaching an autistic child to point. Pointing itself is the bridge to accessing the child’s true level of cognitive development and ultimately toward establishing increased communication.

When I began to work with a few children besides my own son, I saw instantly that they were indeed “answering with their eyes” once I could get their gaze into the general area of the target. I also saw that they could “show me with their hand” if I helped them along just a little at first. As I continued to observe this, I went back and looked at hours of video tape of children working with Soma and others. This confirmed what I was seeing: it was essential for the eyes to hit their target and the hand to follow the eyes. This proved to be the most critical key to the pointing method.

**Monitor the eyes and prompt the hand to follow the eyes:**

This is the key component of the informative pointing method.

First you will alert the child’s visual attention to the area of jointly attended information, when you see his eyes hit the target, immediately activate his hand to go where his eyes are “answering”. This results in the child answering with his eyes, followed immediately by answering with the hand. If you hesitate, the eyes may move off the target and the moment of opportunity to coordinate the hand with the target of the eyes will be lost.

**Note about initiating behavior:**

The inability to initiate voluntary motor behavior is at the core of autism. Therefore when we want to access the child’s intelligence by getting him to indicate an answer to a question by pointing, we have to
separate the tasks at hand. Each and every discrete voluntary motor act requires the child’s full attention. We do not want to begin by requiring the child to make eye contact, sit, point and reference a computer monitor. When working with a child in the beginning, it can be impossible to access cognitive ability if all of the child’s mental effort is tied up in attempting to fulfill our request for behaviors unrelated to cognitive ability. After the child starts pointing and begins to progress toward communication then behavioral demands can be added.

How long should a session be?
Start out with a 10-minute session. During the session, try to work past and ignore whatever behaviors are going on – do not let the session become about behavior. Remember, that you can always “rest the left hand” (by placing your left hand gently over his left hand) to decrease disruption and stimming. You can allow the child to hold his stim item in his left hand, at his left side, as long as it does not totally disrupt the session – keep in mind that his visual attention will be oriented to his right where you are holding the visual stimuli and if the stim item is in his left hand on his left side, it will be mostly out of sight - this can work to your advantage by keeping his arousal up and avoiding a battle over taking it away from him.

Do not let the session become about behavior.

You may be able to do two or more of these 10-minute sessions in succession, with (approximately) 5-minute breaks in between. Wait until the child seems unable to keep going successfully, then give the break before the session deteriorates. During the break, make no demands on the child at all, let him do whatever he needs to discharge his energy and reset his nervous system. Do not deal with food, snacks, or other activities during these breaks. But if, after ten minutes, it’s still going great, don’t stop! Keep going as long as the child is engaged and doing well! We refer to this as “Golden Time” – whether at home or in school, if the child is on a roll – toss out the schedule and keep going!

Because there will be other times when he cannot even make it through ten minutes. As you progress, you and the child will look forward to these sessions and you will find him sitting and working for 20 and 30 minutes at a time and even longer, without a break. I know it’s hard to believe, but that’s what will happen, because the child actually craves this kind of interaction and hasn’t had the chance to have it in the past.

At first, concentrate exclusively on:
- Alerting and orienting visual attention to the area of joint attention. Always monitor the child’s gaze until his eyes hit the target.
- Activating the right hand to move by using a physical and/or verbal prompt as soon as the eyes arrive at the target.

START POINTING!

Step One - Alerting and orienting the child’s gaze:
First you will need to alert the child’s attention, especially if he is stimming or running around or doing both. Then you will need to orient the child’s eyes to the area of joint attention. The level of challenge in accomplishing these two things can vary greatly depending on the child.

You can alert and orient the child’s visual attention quickly and without requiring him to stop stimming or whatever else he is doing.

Sound naturally calls the eyes to the location that it is coming from. You can call the child’s visual attention to the area of joint attention by tapping with a pen (Sharpie) on the single visual target you will be presenting at first.
Movement also helps alert the child’s eyes to the area of joint attention, so the tapping motion naturally incorporates rapid movement that attracts visual attention. I observed Soma tearing paper into smaller pieces and jotting a letter or word on these – the ripping sound attracted the child’s auditory and visual attention and so did the motion of rapidly jotting down of the word; she always followed by tapping on the target. Although tearing the paper is effective, I have found that the sound and motion of tapping on the target area with a Sharpie is usually sufficient to attract the child’s attention to the location.

Impulse may play a useful role in starting to point or grab at a single target or when choosing between two or more choices. The child’s impulsive tendency can naturally increase his arousal and attention and promote initiation of movement. Many children are compelled to grab a small piece of paper just because it’s there. Post-its are perfect for this because they do not require any tearing or tape. You can quickly jot one target and later two or more choices on post-its and press them on to your lap desk, clipboard or white board then, say it (tell what it is), tap it (show where it is) and tell the child how to physically choose - by saying: "get it" or "pick up".

Dov’s teacher Jill says she would often shake the (laminated) letter board at different intensities, about a foot or two from a child’s face, because it combined sound and movement, which would regain his attention.

In some cases it may be necessary to use the child’s favorite stim item, (which is usually highly arousing visually) to get him to visually attend to the area. You can do this by placing it near the visual target. I don’t recommend starting out with this option because the whole interaction with the child can devolve into a battle about the stim item and can be very distract-

What if you cannot orient and alert the child’s vision to the target area?
I met a teenage boy who was autistic and nonverbal, he walked around with his head turned to the left and his right arm and hand outstretched behind him, to the right. In his case, no amount of tapping was capable of alerting his gaze to the area in front of his body because the distance to reorient his head was simply too great. And, there was no way his hand was going to come all the way around from behind him and point to something in front of him. I realized I would have to bring the visual target to his eyes. I held it in front of his eyes, which were looking to the left along with his whole head. I tapped on ‘A’, I saw him looking! “I see you getting it with your eyes, now get it with your hand!” I said as I literally threw his hand forward from behind his body toward the target in front of his eyes, which were looking at it on his left side. He got it and he grinned from ear to ear as he looked over at me, because I knew he got it too. From there we slowly began to decrease the distance between his eyes and his hand. When we began, the two seemed to have absolutely no relation to each other.

Some children will need to be followed around in the beginning. This could mean crawling around on the floor or just staying near the child as they walk or run around. This is done at first (for children who are constantly moving), to prevent your initial attempts at getting them to point or grab at a single target from becoming power struggles about behavior. Remember: ignore behavior - at first. You can place the target in front of them whenever possible and follow the sequence of steps on the go. Another approach that works for some children, even very active ones, is to remain seated where you are working with them when they jump up and run away, and simply wait until they return to you and then continue from where you left off. I have been amazed to see children jump up, let out a scream and run around the room several times, then on their own, return to sitting and finish spelling out a word they left half completed. As the child experiences success he will stop running around, stop jumping up and sit with you attentively for a gradually increasing length of time. In the begin-
nig it can be hard to believe that this will ever happen but trust me it will.

**Step Two—Activating the child’s hand/arm:**
I advise you to throw out any concerns you may have about how much or how little to help the child with physical prompting or support. It is irrelevant at this beginning stage. In every case where a nonverbal or low-communicating child has become proficient at pointing, typing and communicating, they started out needing a lot of support, both physical and emotional. For examples see Krishna Narayanan’s book: ‘Wasted Talent’ (Vite Publishing, 800 Turnpike St., Ste. 300, North Andover, MA 01845 USA) and Jamie Burke’s video: [http://www.breaking-the-barriers.org/breaking-the-barriers/stories_jamie.htm](http://www.breaking-the-barriers.org/breaking-the-barriers/stories_jamie.htm).

There is much skepticism and judgmental opinion about using physical support when an autistic child is learning to point, type and communicate. I find this absurd. Typically developing children learn by being assisted and supported, they learn by being taught not by being tested and not by having their cognitive ability put on trial. You’ll need to ignore all critics and skeptics because it is essential to provide whatever physical support is required at first to help the child succeed and have a positive experience. Then make sure you back off as quickly as possible to prevent the child from developing ‘learned helplessness’ or getting stuck below his potential.

**Timing:**
Timing is essential, in order to get the hand/arm to act in accordance with the eyes. You must monitor the child’s eyes and just when they hit the target, give a verbal prompt (“Now get it with your hand.”) and if necessary, a physical prompt to the hand/arm, exactly when the eyes “answer.”

**What kinds of prompts do I use?**
Some children will not need a physical prompt at all, some will need it for only a very short time, some will need just a gentle prod or tap to bring awareness to their hand/arm and some will need much more.

Here are some examples of prompts, which you may want to try if the child needs you to help activate his hand/arm in order to get it to the visual target while his eyes are still looking at it: Try a **verbal prompt:** “Now get it with your hand.” Or try using shorter more abrupt verbal prompts such as: “Go!, Go! Go!”

You will likely need to use a combination of visual, verbal and physical prompts when you are starting out.

Here are some types of **physical prompts** to alert, orient and activate the hand/arm:

- A light touch (like drawing a short line with your finger tip).
- A gentle tap.
- A gentle prod (like a quick, short poking motion – very gentle). This is often done using the your thumb.
- A gentle squeeze. This is usually done by squeezing the child’s arm and or hand with your whole hand. You can do one area, for example just the hand, lower arm, upper arm or shoulder. Or you can try giving a series of three to four quick squeezes starting from the shoulder and ending with the hand. This series must be done very quickly so the hand/arm is activated to move toward the target before the eyes have left it.
- A light tapping under the wrist – kind of like throwing the whole hand/arm upward.

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**Footnote 9** Read more about verbal prompts and the difference between verbal prompts versus verbal reinforcement.
How firm or light should the physical prompting be?
Try different degrees of firmness ranging from extremely light to more firm. Perhaps you will already know what kind of touch is alerting but not too stimulating or distracting for the child. Try different strengths of prompting and see what is needed at first and what works best. Always work toward decreasing the intensity, duration and number of prompts as much as possible. Always maintain enough support so that the child continues to be successful.

Where should I be prompting the hand/arm?
Slight to moderate tap or prod or squeeze to the:
- Right hand.
- Right shoulder.
- Right shoulder, then right hand.
- Right knee.

What about the pace of prompting?

Soma told me you have to out-pace the stim, you have to become the stim.

Children with autism experience sensory abnormalities across all modalities and their experience of the environment can be alternately overwhelming and underwhelming, they can fluctuate between hyper-arousal and hypo-arousal.

Footnote10: Read an excerpt from Strange Son about the role of arousal in autism.

It is for these reasons that the pacing of prompting is essential for success. Every child will be different, but most will need a lot of stimulation to compete with the environment. Every child has their favorite stim activity and every child stims at their own specific pace. This is a major clue for you about how fast you will need to prompt the child in order to capture his attention – how rapidly you will need to prompt in order to compete with the environment, and the stim.

Use the child’s stimming to guide your pacing. This will take some experimentation until you find the right pace and rhythm. But when you do, you’ll know it - because things will start to fall into place and work.

Rhythm and cadence:
Music therapist Suzanne Oliver, founder of Neurologic Music Therapy Services of Arizona, introduced me to the idea of using music and in particular a beat or rhythm to help establish optimal pacing during pointing. I will be writing more about this in the second part of this manual. In the meantime, some people report that playing music that reflects the timing of the child’s stimming pace can be very helpful in getting a rhythm going while pointing. Others have used a metronome or other means to produce a background ‘beat’ while working on establishing pointing skills. These things are worth trying.

How might the child be able to indicate an answer:
Though it seems obvious to us, how to indicate an answer may be a complete mystery to the autistic child. This is so often over-looked and yet it is the bottleneck or stumbling block that prevents many children from moving ahead. We cannot assume the least bit of motor competence or eye-hand coordination. We must not assume the child just naturally knows how to answer, the way most children do. These simple, basic ways of answering that are listed below are probably not obvious to the child even though he may have lots of cognitive ability locked inside.

Footnote10
There are many ways a child can indicate they understand location and meaning of a visual target or indicate the answer to a question. Here are the most common ones I have seen, in order of difficulty:

- Picking up the target (swiping at or grabbing).
- Tapping or pointing at the target.
- Circling the target.
- Marking the target with a colored highlighter.
- Handwriting the answer.

To start out with, most children will grab, tap or point.

REMEMBER:
- Sit on the child’s right.
- The child should point only with his right hand (do not allow two-handed pointing).
- If the eyes and hand become disconnected, gently pull the pointing hand back until the eyes can hit their target, then allow or activate the hand/arm to follow.

One Target Exercise — Identifying a single target:

For most first-time students who are just learning to point especially those who are not accustomed to sitting in one place for any length of time (meaning even a few minutes), or whose stimming behaviors get in the way of everything, or who are prone to aggression or jumping up and running off or any combination of the above, you will want to start with the single target exercise.

This beginning exercise is strictly geared to helping the child experience his eyes attending to a visual target while his hand/arm gesture to it immediately, so that looking and pointing happen almost simultaneously, with very little lag time between. This is not a test to see if the child knows the meaning of the visual target; that will come later.

Sitting on the child’s right side, in a comfortable, child-friendly location such as on the couch, keep your clipboard or lap desk between you and the child. Have several small size index cards ready. Explain what you are doing to the child, that he is helping you practice pointing together and that you are trying to learn more about what he knows. Be persistent in a friendly, reassuring way, always with positive expectations.

Clip one of the cards to your board and write a large letter or number on it using your Sharpie pen. Explain as you write, something like this: “This is the letter A.” At the same time tap on the card with your pen. Do all this quickly. “Okay show me A.” Tap again. When his eyes go to A, instantaneously tap his hand/arm and say: “Now get it with your hand!” Another variant that has to be said fast: “I see you answering with your eyes, now get it with your hand!”

Whether or not your child knows the alphabet is irrelevant at this stage as long as you tell him what the target is (for example ‘A’ or ‘1’). We will address how to assess his cognitive ability later, after he learns to point.

The speed at which you activate the hand is essential because you must activate it while the eyes are
answering. Once the eyes have left the target you will have to start over with alerting and orienting the child’s visual attention to the target area again by tapping and/or moving the target, and followed by again immediately triggering his arm/hand movement. When the child touches the target you should immediately give accurate feedback by saying, “yes,” or “good,” or “okay” in a supportive but not too stimulating voice.

It is essential to continuously monitor the child’s eyes during this exercise so that you know exactly when he is looking at the target and you can activate his hand/arm at that exact moment.

Again, when the child touches the target you should immediately give feedback by verbally acknowledging he has succeeded. It is important that these things happen in very rapid succession so that they ‘go together’ for the child and become one integrated experience: he sees and touches the target and receives your verbal verification. This is an approximation of joint attention. If the child’s eyes leave the visual target before you get his hand to it, or he gets his hand to it, start again by alerting and orienting his visual attention followed by his hand. Keep doing this until he experiences seeing, touching and your verification all together as one integrated experience.

When the child becomes less accurate it is almost always because his eyes and hand have gotten out of sync. For this pointing method to work it is essential to watch for this de-synchronization and correct it immediately. If the eyes and hand become disconnected, you may need to say “look” and tap, thereby realigning the eyes to the target, then prompt the hand, or you may need to pull the hand away from the visual target and start over again, eyes answer first, hand immediately follows. After a short while of practicing and with vigilant monitoring, you will be able to detect and correct this de-synchronization every time. As a rule of thumb, if the child points inaccurately more than once in a row his eyes and hand are almost certainly not working together and you should start again with getting his visual attention followed by hand movement to the target.

When I watch people starting out, their single biggest challenge is to keep the child’s eyes and hand in synch. This requires incredible concentration, vigilant monitoring of the child’s gaze and split-second timing in your prompts to his hand/arm.

There can be many variations on this exercise according to the child. Some children will only need a tap on their arm, while an intermediate variation is to hold their right hand poised and ready while watching the child’s eyes, only releasing it when it begins to move toward the target. And still other children may need the full support of motoring their arm/hand to the target at first. Again, the important thing in all cases is that the hand should arrive at the target while the eyes are still attending it.
What about the child who won’t or can’t look in the beginning?

The child who actively avoids looking (at first):
Some children will actually avoid looking at the visual stimuli and when they finally do look, they will glance so fleetingly at first that you cannot get their hand to the target before their eyes have looked away. In this case you will have to work in steps toward the eyes and hand being at the visual target simultaneously. You will still begin by getting visual attention as described above, using visual, verbal and physical prompts as needed. You may need to bring the visual stimuli into the child’s field of vision if he is moving around a lot; that means following him around and presenting the material wherever his eyes may be looking. When the child does focus on the visual target you will know it – this kind of looking is very distinct and you will recognize it as being different. This kind of child will need your help to get his hand to the visual target while he is looking. There are two ways you can help him – one is to lift and push his hand toward the target (kind of like throwing it), so that he can get the experience of seeing his hand hit the target while his eyes are looking at it – he may rarely have had this experience. Your goal will be to shape his pointing movement and fade your physical support over time. You can also give auditory cues indicating the location of the target such as tapping on the target, that let the child know where to point even after his eyes have left the target. This can be used to practice looking and then pointing in succession with the goal of shortening the interval between looking and pointing over time until he is looking and pointing at the same time.

The child who can’t look (at first):
Some children will not be able to fixate their gaze on the visual stimuli at all in the beginning. My son Dov was one of these children. It seemed as if he did not know how to look at a visual target, instead his eyes would wander all over. When Dov worked with Soma in the beginning, he would sweep his eyes across the area of the target, then look away (often turning his whole head away) and then point. By shaking the board and verbally prompting, Soma was able to get Dov’s eyes into the area of the visual target and as soon as he looked at it, she stopped moving the board and gave him a physical prompt – a prod, to his knee, to point. My friend Dan Gillette was the first to notice that Soma stopped shaking the letter board as soon as Dov looked and looked away. Because she stopped moving it, Dov was able to look, look away and then point and still have a relatively good chance of hitting the target. Had Soma kept moving the board after Dov looked and looked away, he would not have been able to hit the target with his finger very accurately. Over time Dov looked away less and eventually he only shifted his eyes away between letters (instead of turning his whole head). Now he only shifts his eyes away every few letters or sometimes just between words or on a good day only between sentences.

Later Soma evolved the technique of offering the child two choices located in two distinct physical locations (two pieces of paper a distance apart on a surface such as a lap desk). She would ask a question then tear a piece of paper in two and jot down the answers as she said them – all this very rapidly. She would write, say aloud and tap on each answer. This way the child heard the two choices and also knew where they were located in space (tapping). Often she would ask a question about the child’s stim item which she allowed them to hold in their left hand, for example: “Are we holding a rock or a cat?” (spelling out ROCK and CAT, saying and tapping). She placed the two choices far enough apart so that the child knew where each one was and in this way even a child who was avoiding looking or a child who could not look in the beginning, would know what the two answers were and where each was located in space. Soma would say: “Pick up!” Meaning choose the answer. She often told me it is not WHAT to answer that is the problem for the child, it is HOW to answer. It might be obvious to us but it is not obvious to the child and you need to tell him to take this last step of actually indicating his answer. You must tell the child how to answer, i.e. “Pick up” (the piece of paper with the answer).

It is not WHAT to answer that is the problem for the child it is HOW to answer.
Note on a child who doesn’t move his hand toward the target at all:
In some cases even when the child is looking at the target and you have triggered his hand/arm with a physical prompt, the child may still make no movement toward the target. If this occurs, you may need to quickly move his arm/hand toward the target until it touches it — while his eyes are still looking at it. This does not mean you should be “carrying” the weight of the child’s arm/hand, it is more like casting the hand/arm toward the target, it is more like a rapid and gentle but firm urging or flinging motion. The child must be doing some of the work. In difficult situations, when the arm is like dead weight, you can try quickly lifting the arm and dropping it — the child will get muscle control of his arm as it falls and just at that instant that he gains control of the his hand/arm (stops it mid-air, from falling), you say: “get it!” There is a very good chance he will move his hand forward toward the target.

Note about verbal prompts:
Keep verbal prompts simple and straightforward using a neutral but alerting tone of voice. Do not mix praise or more complex requests into the prompts, such as “Show me the answer.” or “Point to the answer.” or “Which one is A?” or “You know what it is.” Stick with short, direct verbal prompts, for example: “C’mon!”, “Go!”, “Next is...”. Jill’s favorite was: “Yup, and...”, which she said after each letter at first. Later she shortened it to “Yup” and eventually dropped it altogether. Verbal prompting is not the same thing as giving verbal feedback about what the child is doing.

It is important to give very accurate, concise verbal feedback and to deliver it in a neutral, non-distracting voice. “Yes” or “No” for example. This is strictly to give the child information; it is not an emotional interaction. Less is better. Save all the praise for immediately after the session.

Note about ignoring behavior — at first:
If behaviors get in the way, ignore them, follow the child around at first if needed, and/or work in a small, contained environment. Sooner or later the child will look and point at the same time and you will be on the road to pointing.

Every session should end on a successful note with encouragement: “You’re getting it!” “I am excited to work with you again tomorrow!” “You are so smart!” “I really enjoyed working with you today!” Always speak to the child as if he understands everything, because he very well may. And if he does, talking to him at an age appropriate level immediately makes you someone — maybe the only one — who understands him. This can go a long way toward creating a trusting, mutually respectful relationship which will in turn accelerate learning and increase communication.

Once the child gets past their initial anxiety about the new situation and expectations and begins to trust that he will not fail, you’ll find that he will quickly start to enjoy these sessions, even look forward to them, and he will sit and attend for longer and longer periods of time.

You will know the child is ready for the two target exercise when he can reliably touch a single visual target while he is still looking at it several times in a row. If you monitor his eyes very closely you be able to observe improvements in the coordination of looking and pointing.
Two Target Exercise -- A visual search, pointing and choosing between two targets:

Establishing coordination of visual attention and pointing is an essential first step. Moving on to two choices is a major leap forward.

Moving on to two choices represents a huge increase in complexity, requiring receptive understanding (of your question), visual search (looking at both choices), inhibition of pointing (at both targets) and cognitive processing to produce the answer – all before actually pointing at it. This is a big deal. It is the biggest leap forward in learning to point and the most rewarding.

Before you begin, explain to the child exactly what you will be doing and ask him if he’ll help you practice.

Soma often started out using the child’s stim item as the subject of the two choices and then moved on to objects in the immediate environment, for example are we sitting on a couch or on a hat? I noticed that in the beginning she made the choices extremely distinct and different - not in the same category, for example she would not use “Are we sitting on a couch or a chair?”. In other words, the wrong answer might be what you’d call ‘impossible’. Don’t forget the child is learning HOW to show what he knows and that is what we are concentrating on – so we make every effort to make each step of the process as clear as possible. Once the child learns how to point the sky is the limit when it comes to what you can teach him.

Note about what kinds of choices to give the child right from the beginning - using age appropriate materials:

I have used the letters A, B and C to represent choices. However it is important to actually start out using choices that demonstrate the child’s knowledge and ability. Dov’s previous teacher, Heather emphasized this to me when she reviewed this manual. Experiencing your child's cognitive ability right from the start is important for both of you. You will feel thrilled and amazed and your child will be proud and excited.

Discovering your child’s hidden intelligence is very motivating for both of you and it can make these early sessions all the more enjoyable and rewarding. For this reason, Heather recommends using age appropriate materials right from the start, whether it is text you are reading to the child or the kinds of questions you are asking him. There is no reason not to use age appropriate questions even as you are just starting out learning to choose between two targets.

I remember when Dov first started communicating and each day was like a new adventure as we began to discover what he knew. For example Dov’s IEP goal at that time (he was nine), was to count from ten to twenty. This was supposed to be done by counting blocks. Dov could barely count the blocks from one to ten. But once he began to point at the letter board (which should also have numbers!) he showed us that he could do basic arithmetic including multiplication up through the sixes. It is truly thrilling to discover your child’s cognitive ability because it will almost always be much greater than he could ever demonstrate before.

The sooner you can begin to unlock the child’s knowledge and ability the faster pointing will progress because it will be so rewarding for the child (and for you!). Soma advised parents to assume the most cognitive ability and the least motor ability in their children.

Along these same lines, Heather suggests starting with the assumption of age appropriate intelligence and intact cognitive ability. This means talking to the child at all times as if he understands everything you are saying – because he probably does and probably has understood everything he has been hearing since an early age.
The Informative Pointing Method
November 11, 2007

Part III: Hands-On

This is a good series of books that goes from kindergarten through 6th grade. You can move around between different grades levels to explore your child’s knowledge level and then mix and match the content accordingly. The series is fun and interesting with a layout that is conducive to finding and material and showing.

Once you have read through the steps outlined here you can read Heather’s specific suggestions about what material to use when you start practicing two choices. (See footnote 11). You should use these suggestions in place of the A, B, C that I have used here.

Appendix A: Read Heather’ Clare’s specific suggestions about what material to use when you start practicing two choices.

Footnote 11: Lesson plans from Soma’s website.

Step One – Looking and pointing at two targets in sequence:

In the first part of the two-target exercise we are teaching the child to attend to two visual targets in a sequence. In the second part of this exercise we will add a cognitive component by asking the child to make a decision between the two and to indicate the chosen target with his hand. This will introduce a wonderful reward for the child as he begins to be able to successfully show you his answer and what he knows.

Step Two – Looking at the two targets in succession without pointing:

This seems so obvious but it may not be for the autistic child. This is teaching how to visually search. You are teaching that looking can be used for the purpose of searching as well as for the purpose of answering. This time you will repeat the above sequence, “Here’s A” (tap, tap) and “Here’s is B” (tap, tap) – making sure the child is looking at each target as you show it to him.

Note about when there is a gap between looking and pointing: Don’t let any exercise become a power struggle about looking. It is up to you to alert the child’s eyes to the target with sound and movement, then to trigger his hand forward when he looks. Do not start out by telling him to look; he has heard this a lot in the past and you’ll never get past this initial battle if you focus on making him look by telling him to look. Instead it should just happen - of course you are making it happen by alerting his eyes to the target by tapping and movement and by saying it. But you are not telling him to look. Later, once he’s experienced the thrill of looking and pointing and being able to show you what he knows, then you can

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graduate to verbal prompts and reminders to look. Some children will not be able to get their hand to the target while they are still looking at it - at first.

These children may glance at the target and quickly look away as they start to point at it, this is ok. It is your job to help them close the gap between looking and pointing. This may come very gradually but hang in there and it will eventually happen.

**Step Three – Pointing at one of the two targets in response to a question:**

Once the child has learned to look and point to two targets in sequence and then to look at two targets in sequence without pointing, you can add a cognitive component by asking the child to show you (look then point at) one of the targets.

Start by showing the child the two targets in the same way as in step one: say and tap and make sure his eyes hit the target and that his hand follows. Then immediately say: “Okay you got it? Now get B.” *This time without tapping it.* If necessary, you can show him the answer by tapping on it, however if you have to do this a lot then you should probably go back to the previous step and practice until he can look at two targets in sequence without pointing. Your goal at this level is to use tapping to indicate the location of the answers then let the child get the answer with his eyes, immediately followed by his hand.

This is more complicated than it appears. The child must visually alert and orient to the two targets in succession, remember their locations and identities, process your verbal request and then point to the answer. It is essential to move through the process very quickly to maintain uninterrupted fluency of attention, memory and the motor component. You may still prompt the hand/arm to alert the motor system to engage, if needed.

Later, when these first steps have been learned and the act of looking and pointing becomes more integrated and automatic, you will not need to tap the visual target so often and sometimes not at all. You will instead be able to verbally remind the child to “look!” at the letter board when his visual attention wanders or when his hand and eyes become un-calibrated and this will no longer be experienced as an all-consuming demand.
Review of the Two Target Exercise:
Tap and say each of the two targets in succession making sure he looks at each, then say: “Show me B.” The big difference is that you tapped on each choice in succession and then asked the child to point to a specific target without tapping on it again. Now the child has to make a decision (identify B) by finding the target visually (visual search), indicating where it is located (answer the question) and pointing to the physical location of the answer – all without you showing him where the answer is. This challenges the child to use his own eyes without alerting and orienting from you. This is a huge step forward because the child is showing you what he thinks and what he knows and this is the very first step in communicating together.

This stage may take a while – this is all new to the child with autism; he has missed out on years of communicative experience, so give him lots of encouragement and time and patience. Once you get past this stage you have truly turned a corner. You will be able to expand the number of choices and begin to explore and build further on his cognitive ability and his social, emotional and communicative abilities. This will be an exciting time when you can begin to learn so much about your child and experience the mutual pleasure of sharing knowledge, thoughts and feelings.

A wonderful naturally occurring effect of the child being able to show you an answer – whether he is choosing from two choices or spelling out a word or sentence, is spontaneous ‘social referencing’. I have observed that when a child begins to experience the enjoyment of being able to show what he knows and being understood, he will begin to spontaneously look over at you with a very natural gaze of enjoyment, perhaps pride and excitement – feeling that which all humans crave, the sense of being understood and appreciated.

Providing sufficient support while encouraging independence:
Nothing encourages independence like success, so do continue to provide sufficient support for the child to be successful. For as long as needed, or whenever it is needed, continue tapping to alert visual attention and physical and/or verbal prompting to activate the hand/arm for a while. The need to continue providing this degree of support will vary considerably depending on the individual child and even from day to day for any one child. The goal is to fade these supports and foster independence as rapidly as possible. But the most important goal each day is that the child should have a positive experience, that he enjoy and look forward to working with you, and that the child feels confident and successful. Every child may need to return to having more support if he is having a rough day, if he doesn’t feel well, is anxious or irritable or if any of the many other things that can prevent an autistic child from functioning optimally are bothering him. Always adapt the activity so that there can be success.

For most children you will probably need to continue tapping to get reflexive visual attention and/or to continue giving physical and/or verbal prompting to activate the hand/arm for a while. The need to continue providing this degree of support will vary considerably depending on the individual child and even from day to day for any one child. The goal is to fade these supports and foster independence as rapidly as possible. But the most important goal each day is that the child should have a positive experience, that he enjoy and look forward to working with you, and that the child feels confident and successful. Every child may need to return to having more support if he is having a rough day, if he doesn’t feel well, is anxious or irritable or if any of the many other things that can prevent an autistic child from functioning optimally are bothering him. Always adapt the activity so that there can be success.

Bad behavior may have become the child’s only effective tool for communication.

Bad behavior may have become the child’s only effective tool for communication – and don’t try to take it away until you have something better to offer! The Informative Pointing Method can be that ‘something better.’ The trick is being able to get close enough into the immediate proximity of a person who has experienced so much failure and anxiety, to get them to trust you. That is why we start out so undemanding, so low key and accepting. That is why we may have to follow the child around at first, or just sit nearby until he comes to us. It takes time and a lot of patience, but the rewards are tremendous for the child and for you.

Most of these children are profoundly discouraged and anxious and probably feel terrible about disappointing their parents and teachers over and over again. If this pointing method is to succeed, it MUST be a different kind of experience for the child, an enjoyable one where even on a bad day the child can do well.
TROUBLE-SHOOTING - Some common problems

#1 - Problem:
The child looks at the correct answer but his hand/arm does not move.

Why this may be happening:
The child may still be having a problem initiating movement to get his hand/arm to “obey” his eyes.

What to do:
Say: “I see you answering with your eyes. Now get it with your hand.” Prompt the arm/hand, if needed. If a simple tap or prod of the arm doesn’t mobilize the hand/arm try quickly squeezing the arm gently but firmly from shoulder to hand and then move the arm/hand toward the visual target. This must be done in rapid succession just after you ask the child to “show me A,” “get A,” or “where’s A?” If this still does not work you can try picking up the child’s arm and dropping it just as you ask the question and just as his eyes hit the visual target – he will naturally get a hold of his arm muscles as his arm falls and usually this will happen close to the visual target and he will point at it. If a child is having this much of a problem getting his hand/arm to move you probably should still be using a single target exercise until he gets his hand/arm movement going. One caveat: if the child does not “catch” his falling arm in mid-air and lets it drop like dead weight on the lap desk or in his lap, try a couple more times but do not persist as you don’t want him to hurt his hand/arm when it lands and there is a chance he has some additional muscle/motor disorder that you may want to consult a neurologist about.

#2 - Problem:
The child looks at the correct answer but points to the wrong answer.

Why this may be happening:
This is a pointing problem resulting from the hand not following the eyes. You want to acknowledge that the child knows the answer (because you can see him answering with his eyes) and reinforce getting it with his hand, which is overriding impulsive or spontaneous reaching with the hand/arm toward a target other than the one indicated by his eyes. It is reassuring to the child when you acknowledge that he is getting the answer with his eyes. He feels understood and his intelligence is recognized and this encourages him to keep trying to get his hand to “obey” his eyes. Again, all this has to happen very quickly so that the ideas and movements “go together” and have meaning in real time.

What to do:
Say: “I see you answering with your eyes, now get it with your hand.” Usually the child will bring his pointing into alignment with his gaze. Prompt hand/arm if needed. Start over again if the eyes and hand do not recalibrate immediately. You may need to gently pull the hand away from the visual target area to start over.

#3 - Problem:
The child looks at and points to the wrong answer.

Why this may be happening:
It is important to differentiate between a problem of calibrating eye and hand and a problem of not knowing the right answer because a wrong answer can still be the result of successful pointing (if the child thinks that the answer he is pointing at is correct and his eyes go to that target first, followed by his hand). In this case, the child needs to know that his pointing is being done correctly but his answer is wrong, then be given the correct information and allowed to point at the correct answer, showing that he is pointing according to what he knows versus having a spontaneous or impulsive movement. Lastly it is reassuring to the child when you acknowledge his pointing, teach him and give him a chance to self-correct.

What to do:
This is not an attention or pointing problem, this is a teaching opportunity. Show and tell the child the correct answer by saying and tapping it by getting his visual attention alerted and oriented to the target area. Then start again once he has the correct information.

#4 - Problem:
The child looks at and points to the correct target but then immediately points to the incorrect target.

Why this may be happening:
This is another example of spontaneous or impulsive movement driving the behavior of the hand instead of the hand following the intention of the eyes. In this case the hand has “obeyed” the eyes but has then gotten away and is doing its own thing. Whenever a child is pointing pretty well and then becomes inaccurate the hand has gotten out from under the control of the eyes and has reverted to being driven by impulsive or spontaneous movement. The
problem with this is that it tends to discredit the initial correct pointing making the child’s initial looking and pointing seem invalid or by chance. You can imagine how discouraging this can be to the child if he knows the answer, looks at it and points at it, only to lose control of his hand just as he succeeds and then have people doubt whether he actually knew the answer.

**What to do:**
Initially you may want to gently pull the child’s hand back immediately after he points to a correct answer until he stops doing this.

**#5 - Problem:**
The child does not look or point.

**Why this may be happening:**
If the child cannot look or point you should still be working on the single target exercise.

**What to do:**
Go back to using a single target, put the visual stimuli in front of the child’s face at an easy to view distance and tap the first target, when he looks, rapidly prompt his hand/arm to point at it. If you can’t get past the first step of getting the child to look at the visual target you may have to just work on this one goal for a while until he can do it. You may have to go back and break it down into two steps first working only on getting his visual attention to the area of the visual target and once he can do that, working on getting his hand/arm mobilized to hit the target while his eyes are still on it.

**#6 - Problem:**
The child’s hand/arm becomes increasingly limp and pointing becomes inaccurate.

**Why this may be happening:**
Many children with autism have low muscle and motor tone and after a while the hand/arm may begin to get limp and crumple.

**What to do:**
Ask the child to sit up straighter, change position and get into a more erect posture. Hold the lap desk or clipboard at arms length from the child, so that he has to reach out to touch the target. This will immediately give better accuracy. This full-arm-extension pointing can be tiring and the child will need to rest his arm frequently. Some children are helped by using a write support, such as a wrist guard. There are also lap desks with wrist rests as well as mouse pads that have a gel wrist support.

**#7 - Problem:**
The child always chooses from the same side.
This is very common and many children will go through periods, especially in the beginning, where they choose only from one side. This can be maddening, but hang in there, you’ll get past it.

**Why this may be happening:**
First you’ll need to determine whether the child is answering correctly with his eyes and then pointing at the same side regardless of whether it is correct or if he is looking and choosing from the same side every time. The reasons for these behaviors can be complicated to pick apart and understand. There may be components of impulsivity and/or obsessive-compulsive behavior involved. In addition, the child may not know how to coordinate his eyes and his hand to point at the correct answer or he may be unable to get his hand to follow his eyes to the correct target. Whatever the cause, the important thing is to move beyond this behavior.

**What to do:**
If the child is answering correctly with his eyes but then pointing at the same side regardless of whether it is the correct choice, you can try saying: “I see you answering with your eyes, now get it with your hand” while watching his eyes, and prompting the hand/arm just as his eyes hit the target; this might be enough to help him coordinate his intention, his vision and his motor action (pointing). You might also try increasing the distance between the two choices.

Another approach is to offer only one choice, (the correct choice), on the side where he is never choosing and have nothing on the side he always chooses. If this doesn’t work try giving a choice involving something he loves (this must be something he can have immediately upon choosing the correct answer such as a food or favorite stim item or tickling, etc.) and the choice "nothing". Place the desired choice on the side he never chooses and "nothing" on the side he always chooses. If he still never chooses the desired choice, the prompt him through the motor action of doing so and immediately give him the item he has chosen. You may have to do this
several times, slowly backing off your physical support. Remember it's not what to answer, but how to answer that is so difficult for the child.

Another tact to try is to ask questions that do not have a correct answer but are a matter of opinion. Give choices about a favorite stim item, for example marbles (have the actual item on hand while you do this). "Do you like to play with marbles or stim with marbles?" (choices would be "play" or "stim"), "Do you like marbles or hate marbles?" ("like" or "hate"), each time state back what the child has communicated through his choice, you are teaching him to connect the answer he chooses with his opinion. This can support a whole conversation. For example: "So you like marbles? Yes or no?" (offer the two choices), etc.

If the child looks at the same side and points to the same side repeatedly then you may want to try a completely different tact to break up this repetitive behavior. You can place the answers in larger letters on a wall several feet apart (large size post-its are great for this) and run between them, tapping and saying while watching the child's eyes to see if he is looking. Now ask him to "get it" or "pick up". Give him a quick nudge forward if needed. Do it again quickly and gradually move the targets closer together, eventually returning to the lapdesk or clipboard.

#8 - Problem:
The child always chooses the wrong answer.

Why this might be happening:
Marion Blank (Light on Literacy program, Columbia University in New York) told me that she noticed children with autism seemed to choose the wrong answer consistently and more often than would be expected by chance. She attributed this to their intelligence, suggesting that after so many failures and miserable experiences they learned that showing you can't do something means fewer miserable experiences and failures.

What to do:
Simply acknowledging the situation is often enough to break the pattern: "I see what you're doing - you're choosing the wrong answer every time. You have to be very smart to do that! Now show me the correct answer." Another approach is to offer only correct answers.

#9 - Problem:
The child was choosing the correct answer consistently but then starts to choose the wrong answer.

Why this might be happening:
This is a common pitfall: the child starts to be able to demonstrate his cognitive ability and the parent or teacher is so thrilled that they keep repeating the task to confirm that he really understands and is getting the correct answer. This can very quickly lead to the child choosing incorrect answers. Keep moving on. This is essential to keep the child’s interest and motivation. How else can he let you know that he is bored or that he has already showed you the answer too many times and wants to move on to something else?

What to do:
When initial success turns to failure and frustration, move on to something else immediately. Far better, prevent this from happening by always keep moving ahead to new materials and ideas. Do not wait for total mastery, keep the sessions moving at a rapid pace, keep them upbeat, high energy and move ahead to new materials while the child is still experiencing success. Don’t wait for failure to determine your next activity. Most of all, if a child is doing well and then starts to fail, do not keep repeating that activity; this will only cause frustration and more incorrect choices. Keep introducing new material and ideas; the child is probably starved for the chance to learn and to show you what he knows. Keep it interesting and fun, never make your sessions feel like a drill or a test.

#10 - Problem:
The child is experiencing huge mood swings and/or intense behaviors and can’t focus. He is in a super silly mood or very emotional, very sad or happy or aggressive and it is very hard to get him to participate in the session.

Why this may be happening:
Many children with autism seem to develop periodic cycles of mania (extremely intense behavior). When this happens it can be very difficult to work with the child. The causes of these huge mood swings and intense behaviors in autism and bipolar disorder are not well understood yet. There are medications for bipolar disorder that have helped some children with autism. One hypothesis is that bipolar disorder (including mania) is caused when a person has trouble rapidly switching between left and right hemispheric dominance and consequently spends too

What to do:
Try switching to ‘left brain activities’. Math is one of the most effective, for example: counting forward or backward, counting by twos or fives or tens, doing math problems (at his level), doing story problems with multiple choice (numeric) answers.
The following activities are left-brain stimulating (but less so than math related activities): word search puzzles and classification of words. Another quick method is to gently cover the child’s left eye with your hand and ask him to look at you (keep you hand there for as long as the child allows it). This temporarily reduces the level of visual input to the child’s right hemisphere, allowing the left hemisphere to gain some dominance momentarily – sometimes this shift in hemispheric activity can be enough to achieve more stable behavior although the effects may be very transient and you may have to do this several time during a session. This can sometimes interrupt an upward spiral of manic behavior. Another idea: during breaks you can stimulate the left hemisphere by gently brushing, tapping or using a small vibrator on the child’s right hand or foot.

#11 - Problem:
The child frequently hits the letter next to the correct one.

Why this may be happening:
This commonly happens when a child is learning to point. It can be frustrating because you may feel like you have to put so much energy into the coaching the child to hit the correct letter (“be more accurate”, “get it! Get it!” “Up! up! Up!” “You’re almost there!” “I’ll take that for an A...”) that the experience can become more exhausting than rewarding at times. One danger is that progress toward becoming more accurate can be so slow that progress is hard to detect at all and many people may give up thinking that the child is simply not getting any better. One reason this may be happening is that the child is “targeting” the letter, starting with the general area of the letter board and slowly honing in over time to the exact target of the specific letter. We have seen this over and over and even the most accomplished expert like Soma, when working with a new child, will accept a letter that is one space away from the intended letter. saying: “I’ll take it as A” when the child strikes the letter next door to A in a word where A is obviously the correct choice.

What to do:
Give corrective feedback:
This is why we use a laminated paper letter board at first and when we start to use a computer keyboard we never ask the child to look at the visual feedback on the screen. If he is hitting one letter off even intermittently, he will get bad feedback by seeing a jumbled word on the screen. That is why we stick with auditory feedback in the beginning, because it can be forgiving and provide productive feedback leading to greater accuracy.
Do warm-up exercises:
To help the child get going and to help him calibrate and be more accurate start out with a warm-up exercise at the beginning of a session or use this anytime accuracy is an issue. Always explain what you are doing to the child, that this is a warm-up exercise, just for practice. First ask the child to: “Show me Q, show me W, show me R, show me T, show me Y” (if on a QWERTY board, for ABC letter board use first several letters of the alphabet). This has the child pointing automatically from left to right following a familiar pattern, and no stress. Go directly from QWERTY to asking for random letters around the board then segue to a three letter word or their name or something you know they can already type out pretty well, then without hesitation move ahead into word dictation and finally switch to questions requiring an answer. For a child who is just starting out you will need to work your way up to words, sentences and answering questions, writing statements, etc.

Do dictation and accept approximation:
Use dictation exercises so you know exactly what letters he should be typing and then do accept one letter off and state the correct letter without slowing down by saying: “I’ll take it for A” and move on.

Track progress to prevent becoming discouraged:
As the child slowly hones in on hitting the correct targets it is difficult to detect progress because whether a word is spelled wrong by one letter or several it is still wrong. To keep from getting discouraged you may want to chart progress by keeping track of what letters the child hits and how close they are to the correct target. You can do this once a week to see progress that might otherwise be almost undetectable. First make a few dozen paper copies of the letter board and use one copy for each word the
child practices. Circle each letter the child hits as he types the word, then circle the correct letters in another color. In this way you can see the child’s progress as he hones in on the targeted letters over time. Another way to do this is to circle the correct letters first and then dictate the word, circling the letters he strikes them (in another color) this is a good way to help cue the child toward getting the correct letter and at the same time allow him to see the letter he hit and it’s proximity to the correct letter.

#12 - Problem:
The child points to a series of letters that don’t make sense and you can’t seem to get beyond this.

Why this may be happening:
No one is sure why this happens; it may reflect the degree to which the child is calibrated or synchronized with you in the moment. Or typing a scramble of letters at first may itself be a form of calibration – like when a printer calibrates its inkjets before starting to print.

What to do:
Many times a child will type nonsense for a few letters or even words and then suddenly get in the groove and start typing accurately. Give him this chance by letting him type inaccurately at first, while you carefully watch for the first word to emerge. If words do not emerge after a few minutes, switch to the warm-up exercise described above. The important thing is to keep going and not get stuck in the feeling that this is not working and you don’t know what to do. You can always use to ranking and multiple choice to re-establish calibration and communication and then return to the letter board.
More Exercises:

Expanding the number of choices:
Follow the sequence above and add a third target (‘C’) below and centered between the first two. Once this is going well, you can expand to four choices.

IMPORTANT: Below I introduce the limited letter board, tic tac toe grid, multiple choice, ranking and other multiple choice (multiple target) exercises and activities. These are to be use simultaneously (not in order presented). These activities should be introduced in tandem with the limited letter board as they use the same level of choices and skill.

Start displaying multiple letters on a single sheet of paper:

Note: It is important to keep the letters far apart enough so that you can see which letter the child’s eyes are focusing on.

If the child can look and point at a single letter and a sequence of letters and if he can look and point at the letter you have asked for among two, three and four choices, then you are ready to move the letters on to a single sheet of paper instead of using separate cards. Do this gradually, working your way up through the number of choices again, only this time using a single sheet of paper instead of separate cards. Start with a single letter on a regular sheet of paper, get the child to look and point. Add another letter. Ask the child to look and point at each letter in succession. Ask him to show you a specific letter from then two choices, then expand the number of choices. You can judge how large and how far apart the letters need to be for the child to progress successfully and you may gradually try moving them closer together.

The tic-tac-toe grid:
This is a more playful, game-like version of the above exercises. Using a typical nine square tic-tac-toe grid is a good way to practice pointing, after the child has succeeded in the two-choice exercise. Remember that the two choice exercise is a major step in learning to look, choose and point and you may need to spend more time on this stage than most others, so be patient.

The tic-tac-toe grid starts out with a single target in the center square and then more letters are added. It can eventually be expanded to play games and practice “typing.” You can create and use these grids anywhere that you have clipboard, paper and a pen – we often use big grids to play all kinds of spelling and other games.

Start by drawing a grid and jotting one letter in the middle (for example, A). Since this exercise starts out with a single target, there is no way to get a wrong answer. The child should be able to look and touch the single letter in the middle of the grid right away or at least after a few tries. If he is not able to do this after a few tries you will need to go back to the single target exercise described earlier and do that until he can simultaneously look at a single target and touch it, then move through the two target stage and then return to the tic-tac-toe grid exercise. It is very impor-
important for the child to be able to succeed at every stage. Note; being successful is not the same as total mastery, doing well is good enough to move ahead.

Here’s how you do the tic-tac-toe grid: Draw the grid in front of the child and jot the letter A in the center square saying: “This is A.” Tap on A and say: “Show me A.” Do all this very quickly and keep it moving! If he points at the letter, say “Good!” and quickly add another letter in the upper left-hand square (for example the letter C), then tap and say: “Show me C.” If he does that then add the letter T in the lower right hand square, tap and say: “Show me T.” Keep moving quickly! Now the word CAT is running on the diagonal from upper left to lower right.

“Now spell CAT.” If the child can look and point at C, A, T in succession, you have succeeded. “Great! You spelled the word CAT!” “Excellent! Let’s do more!”

Initially starting with a diagonally oriented word helps the child since the child’s hand will naturally tend to move from left to right and drop downward. A small white board and dry erase marker are perfect for this exercise.

From there you can add more letters and make more words either in a new grid or as the child gets better at it, you can fill in all the empty squares in the existing grid, make bigger grids and have word-finding games and other spelling and number activities. All ages of kids like to join in this game and siblings can play too and it can be played anywhere. We have used this game many times in restaurants to occupy our kids while we’re waiting for our food.
Multiple choice, ranking, yes/no, single letter responses:
These activities should be introduced in tandem with the limited letter board and tic tac toe game as they use the same level of choices and skill.

Now is the time to start increasing your use of multiple choice for teaching and for communication. You can do this by carrying around a clipboard and Sharpie wherever you go. Have these in every room, at the kitchen table, by the TV, in the bathroom, in the back yard, in the kid’s backpack, in your purse, in the car, at school, etc. You may want to copy some choice boards with ranking numbers 1 – 4, yes/no and the alphabet.

Here’s an example of how you can use ranking, you say: “How do you feel today on a scale of one to four? One being best and four being worst.” The child points at three. “Not too good, I see. What’s bothering you? Your mind or your body?” Here’s how you can use multiple choice: You jot the words MIND and BODY on a sheet of paper on the clipboard. The child chooses BODY. “Oh, something bothers you in your body. What is it? Is it your head or your ears or your mouth or something else?” You jot on a new sheet of paper: HEAD, EAR, MOUTH, SOMETHING ELSE. The child chooses SOMETHING ELSE. And so on.

You can also use single letter responses, for example: “You chose HEAD. Do you have a headache, or is it something else? H for headache, S for something else.” The child chooses H. “Do you have a headache? Yes or no?” The child chooses YES on the choice sheet (or Y for YES from the alphabet).

My sister Sarah has worked extensively with Dov and with some other children as well and she created a system for getting yourself and others communicating with the child in a basic way, quickly. Sarah invented her system out of necessity when she took Dov to summer camp in Aspen and he was going to spend each day with his new camp counselor/aide who did not know how to communicate with him yet. Sarah needed to provide the aide with a way to communicate with Dov about basic things immediately.

Appendix B: Read Sarah’s Quick Start system for getting yourself and others communicating with your child right away.
PART III: HANDS-ON

Cross-checking:
Depending on the child’s level of accuracy and what kind of a day he is having, you may want to do some cross-checking to verify his communicative intent. You can do this by verifying his communication using more than one kind of answer mechanism. For example, using ranking, multiple choice and yes/no all for the same question.

Fun:
Multiple-choice can also be used to play many fun games such as categories, adjectives, trivia or current events games, or to fill in the blank of a story or poem. You can draw ‘trees’ of information with different ‘pods’ (answers) to choose from. Doing a multiple-choice game about a favorite stim item can sometimes decrease stimming. For example: “Are marbles for playing or eating? Are they round or square? How many marbles do you think are in this pile? Less than 20 or more than 20?” And so on, until the stim item is totally moved over to the left brain and becomes a bore!

Stories:
You can also use very short stories (a few paragraphs to a page long) and have the child fill in the ending or certain parts of the story. There are some great computer games which require the child to fill in the word, that can simultaneously help with pointing and keyboarding. Later you can help the child construct short e-mails and letters to friends and family members, which will open up a whole new world of relationships and social interaction for him.

Journal:
Soma taught me this exercise and we used it with Dov for at least two years in school. She said she would tear out a picture from a magazine or the newspaper everyday and have Tito write something about it. At first it was only a word, then two words and so on until eventually he was writing one and then two and three sentences about the image. This activity is useful for improving visual attention and for practicing connecting visual information to corresponding words.

When using multiple choice, ranking, etc. Dov’s teacher Jill says she always circled the choice the child made to provide feedback (a visual record of the answer they chose) and so the child can correct their mistakes. See what works best for your child—grabbing a post-it, pointing, highlighting or typing.
Some additional materials to use for pointing practice:

Children with autism are listening to the people around them talk about current events and they are hearing the news on the radio and TV – it is important to discuss the news with them as much as you would with any child, to alleviate anxiety and explain what is going on in the world.

A binder with sleeved-pages of family photos can be used for discussion about people or events (vacations, holidays, etc.). You can talk about the photos and ask questions, use multiple choice and/or ranking at first, later ask the child to write a word or sentence(s) about the photos.

Magazines can provide great pictures to interact about. You can try looking at a magazine picture together and asking multiple-choice questions. Later you can ask the child to spell one word about the picture (and then two and then a short sentence and so on). Soma used to have Tito keep a daily journal when he was much younger, where he wrote a word, then sentence(s) about a picture she tore out from the newspaper each day.

The newspaper can also provide good material – photos and stories. Children with autism are listening to the people around them talk about current events and they are hearing the news on the radio and TV – it is important to discuss the news with them as much as you would with any child, to alleviate anxiety and explain what is going on in the world.

There are also many great websites that provide current events and news for kids (such as TIME for Kids, Newsweek for Kids, Yahooligans, etc.) from which you can print out materials. These can be used to generate lots of discussion, activities, games, etc. I highly recommend edhelper.com, a paid service (but very inexpensive), which provides hundreds of educational activities and materials and allows you to automatically generate custom multiple choice quizzes. I will be including more web sites as well as descriptions of games and activities that a mixed group of kids, typical and autistic can play together easily, in the second part of this manual.

The big question: Can your child read?

Once my son Dov began to point and spell I knew he must be able to read. But how to test him? I wrote out: “What color is a lemon?” and showed the question to him, without reading it aloud. He spelled out LEMON on the letter board and I knew he could read. After that I tested him starting with beginning reading books that had a single word on each page – I tapped on the word and said “Read!”. Then I asked a question about the material that could be answered in one word and he answered on the letter board. In this way we quickly progressed through material that was at his age level. I tapped along each sentence and I moved his finger along at a rate that I could read it myself slowly, saying “Read! Read!”). Then I asked questions. I quickly realized he could read at age-level.
By now you are probably wondering if your child can read – unless you already know that he can. Pointing out short words on the tic-tac toe grid does not necessarily mean the child can read - but it could. Finding out the answer to this question is not too difficult. To do this we will use the two choice method that by now your child should be able to do.

Write one short question on a regular sheet of paper. You will know by now what size of lettering seems to work well for the child. Hold it up on a clipboard or lap desk just as you would for any of the previous exercises.

Have two one-word answers prepared and ready to go (but out of sight) for the child to choose from. A single word answer should appear on each of two index cards, or if you think the child is ready, you can write the two choices on a single sheet of paper, keeping them far apart.

The question should be simple and short and should have a very specific answer. Try to keep the two choices as distinct as possible, don’t use words that look or sound similar and for wrong answers don’t use any choice that could even remotely be considered correct. For example: “Where do we sleep?” - “bed” or “floor” – you could actually sleep on the floor even though bed is the more correct answer – avoid ambiguity. Use extremely different categories and glaringly right and wrong answers. Here are a few examples of questions and answers that would usually work well. Feel free to make up your own.

- "Which one is an animal?"
  Two choices: “dog” “cup"

- "Where do we sleep?"
  Two choices: “bed” “hat”

- "What do we read?"
  Two choices: “flower” “book”

Just as you did when alerting and orienting the child’s visual attention to multiple targets in succession, tap on each word of the sentence, showing it to the child – but do not read it aloud. When his eyes have hit each word, immediately show him the two choices, tapping on the first and then the second choice, making sure his eyes hit each in succession, then quickly ask: “Which one is it?” Prompt his hand/arm, if needed, to get to the target his eyes have chosen while his eyes are still on it. As you can see everything you are doing is building on basic skills the child has already learned.

If the child chooses the correct answer do it again with a new question and answers. You may want to prepare a number of cards with questions and answers in advance. If the child consistently chooses the correct answer you can be relatively certain that he knows how to read and spell.

Another way to test reading which can be done even before pointing is established is to give the child a short written instruction to do something you know he can understand and do, ie “Pick up the cup.” And see if he does it.

If your child does not yet know how to read:
If the child chooses the incorrect answer, try again. If he still chooses the incorrect answer try a different question and answers. If he continues to answer incorrectly or randomly, he probably cannot read and spell yet which means it is time to start teaching him these skills. I will briefly go over what to do in this case and I will address it in much greater detail in the next installment of this manual.

To teach the child how to read and spell I suggest using Marion Blank’s book ‘The Reading Remedy’. Although created for typically developing children with reading disorders, this program lends itself to being adapted for use with autistic children and Marion Blank has used it extensively with children with ASD. Her program, ‘A Light on Literacy’, at Columbia University in New York, is currently conducting a research trial of this literacy method adapted for autism (funded by Cure Autism Now). Marion Blank is also preparing to publish a book, which provides an adapted version of ‘The Reading Remedy’ for autistic children. Her book ‘The Reading Remedy’ also has a section on handwriting, which she says may be adapted as well, although I have not yet tried it. Once your child has begun to read, even a little, you can return to the steps below.
If your child already knows how to read:
You will probably want to add the following modified-for-reading pointing method to the reading process: take the child’s hand, isolating the index finger and guide him to point at each word as his eyes follow along. This can help keep his visual attention moving along from left to right for longer stretches before looking away. It also very important to maintain the relationship you have been working so hard to establish of the eye leading and the hand assisting. In this case the hand is helping to keep the eyes on the words.

Reading is a lot of work for many of these children. It can be an enormous effort and strain for their eyes to focus close up for sustained periods of time, because they have probably never done this previously. So you may want to alternate between reading aloud to the child and having him read silently. It is likely that the child may approach reading similarly to pointing in that he may have to look at a word or short stretch of words or perhaps a sentence and then look away. Just as with pointing at a single target or scanning two targets in succession, it is essential that you monitor the child’s gaze moment by moment to be sure his gaze is directed at the text he is reading. If he is not looking at the words, he is not reading. I personally am not a believer in the theory that autistic children use their peripheral vision to read. They may glance, read, and look away, but it is not possible to read using peripheral vision alone. Most autistic children who avoid looking directly at things will find it difficult if not impossible to scan text the way we do. However, there are some autistic children who can scan text in a typical manner.

If your child can read and spell the next step will be to test his level of reading and his reading comprehension. This can be done by gradually increasing the complexity and level of the materials he is reading. First try a beginning reading book such as is used for first grade. These have large type, simple words and one sentence per page. Have your child look, point and track along the sentence, word by word if necessary. Then ask him a question about what he read, for example, if the sentence was: “The frog jumped on to the rock.” You could ask: “What did the frog jump on to?” then giving two choices: “rock” and “sun” for example. If the child seems to be reading at this level, move up to a picture book that has two to three sentences per page and do the same thing. If he seems to be reading this, move on to an easy level children’s chapter book, (grades 2-3), and so on. You will have to determine what grade level material he can read and comprehend.

If the child can read, he should be given age-appropriate reading material right away. Chances are he has been bored out of his mind. You will have to determine how much text he can read at a time, how many and what kind of questions he can answer in one session. Again I will be posting more related material in the next installment of this manual.

Note about possible eye strain:
Many of these children are unaccustomed to using their central vision for any length of time on a fixed point in close proximity. They may close their eyes, or hold their eyes or cover or rub them. If you see this, acknowledge the child’s eyestrain: “I see your eyes are tired. Go ahead and rest them a minute.” Give the child a short eye rest and then continue, allow the child to rest his eyes as often as he needs to. Some children might like to have you put your hands on their eyes for a brief moment to relieve the tension. Whatever helps the child break the eyestrain and recover should be done with verbal acknowledgement and a quick return to the reading or other visual activity.
Introducing the limited letter board:

If the child can read and has completed the steps up to this point you will want to introduce the limited letter board. This is very much like the tic-tac-toe grid, but now you will be asking the child to practice spelling words. You will begin to ask him to spell out answers on his own, starting with single letter replies (for example, M for milk, or W for water). Since communication is much more difficult than typing dictated words or answering factual questions, we ease the burden at first by using single letters to reply to communicative questions.

Note: It is important to keep the letters far apart enough so that you can see which letter the child’s eyes are focusing on.

The abbreviated letter board will have a smaller selection of letters than the regular letter board, this is a transitional stage leading to the full QWERTY keyboard that is found on computers. Make your limited letter board starting with 9 -12 letters on a sheet of paper, choose useful consonants and vowels! It doesn’t really matter what letters you choose or their order, just so long as there are enough letters to easily spell out some words.

During this stage the child will be getting used to looking at a greater array of letters, all on one sheet paper, and finding letters and pointing at them. Starting with letters you request, then spelling out short words you dictate, and later leading to communicative pointing by giving single letter answers to relevant questions, (for example, “Do you want milk or water? M for milk, W for water. Okay, go!” Finally, first steps of communication can be expanded to spelling out single short words or even short phrases depending on the child.

Limited letter board exercises:

Ask him to point at a single letter. (“Show me B.”)

Ask him to point at each letter on the board in order from left to right. (“Show me A, show me B.” and so on.)

Pointing at the letters from left to right across the entire (limited) letter board is actually a reading-related exercise and will require introducing a new skill that needs to be learned for both using a letter board and reading. It is a skill that requires a great deal of visual coordination and it can be very difficult for many children. This requires returning the eyes to the left side of the letter board or page and shifting them down one line. I usually tap the beginning of the next line down (at the left) to orient the child’s eyes to the correct location to continue looking and pointing (on the letter board) or reading (on the page). It’s okay to do this and it may be necessary for quite some time, sometimes indefinitely. The important thing is that the child is pointing, spelling and reading!

Ask him to point at random letters around the board. This is practice with visual searching.

Dictate a word to be spelled. (“Spell the word dog.”)

Ask a question with a single short one-word answer, give him two choices and ask him to point at the first letter of the answer. For example: “What color is an apple? Red or blue? R for red, or B for blue?”

Ask a question with a single short one-word answer, ask him to spell the answer. For example: “What color is an apple? Spell your answer.” (“RED”) You may want to dictate the answer at first, spelling it out with him as he points, if he needs this practice and/or modeling.

Ask a communicative question and request a single letter response. For example: “What do you want? Milk or water? M for milk or W for water?”
Note on maintaining consistent techniques:
Remember that you need to continue to apply all the techniques you have learned. Continue to alert and orient vision (tapping visual target if needed), use physical and/or verbal prompting to activate hand/arm pointing (if needed). And constantly monitor their eyes, making sure their eyes stay in charge and lead the hand. If the child becomes inaccurate chances are you are not watching his eyes and his eyes and hands have become disconnected. In this case pull back the hand and start again with the eyes leading. For some children you may have to do this for each letter.

START USING THE QWERTY LETTER BOARD/KEYBOARD!

What configuration of letter board / keyboard to use?
Should you use an ABC or QWERTY configuration when starting out? In most cases I suggest starting with the QWERTY configuration, this is the standard found on all computers. Most kids do fine starting out using a QWERTY configuration and this is the preferred configuration to use because it will transfer easily to using the computer later. There are however, some children that have been taught the ABCs who will do better if given an ABC configured letter board/keyboard.

Our friend Juli, who is an adult with autism, says that the QWERTY keyboard was a major obstacle for her when she started typing at age 12 because she felt strongly that she needed to use the ABC order that she had already learned and was accustomed to.

You may want to experiment to see if your child responds better to one kind of keyboard configuration over another. If you do use the ABC configuration there are ABC keyboards that can easily be connected to the computer later. Tito learned to point using an ABC letter board and it took him only about a month to become comfortable using the QWERTY keyboard after we gave him a laptop PC.

Important: whatever keyboard configuration you use at first, whether it is QWERTY or ABC, you must be consistent and make sure that every one uses the same kind of keyboard configuration with the child.

Size of keyboard:
Some children will do better with a small keyboard that requires a lesser degree of visual scanning and less range of motion for pointing. These children will be more accurate on a small keyboard like the ‘Franklin Children’s Talking Dictionary,’ for example. Other kids will do better with an oversized keyboard, such as the ‘Intellikeys’ or ‘Big Key’ keyboards. And some kids will do just fine on a regular size keyboard. It’s easy to simply try different sizes of laminated paper letter boards with your child and see what he does best with. The same goes for the color and contrast of the letters and keys.

You can start by using a laminated paper letter board (whether ABC or QWERTY). Make tons of these paper letter boards and have them everywhere. You can find a simple one that is downloadable at: www.strangeson.com. Encourage everyone to use this letter board as often as possible with the child.

Once you are using the full letter board you can still use single letter answers, ranking (numbers should be at the top of the letter board) and Y for YES and N for NO, etc. I always like to carry a clipboard too and to use multiple choice words, that can be hand written on the fly, as needed.
The laminated paper letter board will always come in handy because you can drop it in the bathtub or throw it out the car window and you won’t care!

**Introducing a real keyboard:**
To introduce a real keyboard I suggest using a cheap keyboard (detached from the computer), and treating it exactly like your laminated paper keyboard: position it vertically in front of the child’s face, alert and orient his vision to it, activate his hand/arm and monitor his eyes continuously.

You can eventually hook the keyboard up to a computer and after a while show the child that what he is typing is appearing on the screen.

Most computers have a voice output option, which I suggest using as soon as possible so the child can have the fun of ‘speaking’ what he has typed. This can really add to the joint attention experience as the child can now type his answer or thought, push the return key, turn toward you and watch your face as you listen to what he says! This can be very enjoyable for both of you and greatly assists in creating a more natural turn taking type of timing in your interactions.

**Communication devices:**
There are all kinds of communication devices on the market with a great range of prices, some of which I mentioned earlier (see www.dynavoxtech.com). It is my hope that an inexpensive, durable, lightweight voice output device will become available very soon. So far the Franklin Kid’s talking Dictionary is the closest thing I have found on the market (http://www.franklin.com/estore/dictionary/KID-1240/).

Once you introduce the full QWERTY keyboard you can follow the same series of exercises that were used on the limited letter board. To promote more frequent communication I recommend continuing to use shortcuts such as on-the-fly multiple choice, ranking and single letter answers along with spelled out words and sentences.
Quantity versus quality of communication:
There is always the decision to be made between quality and quantity of communication. When there is time, especially in a one-on-one situation, it is great to get full sentences, ideas, thoughts and feelings from Dov – and I love it. But this is very time-consuming and doesn’t work well when you want to include the child in real time interactions with other people. For fast moving situations, such as in school, at the dinner table, etc. I prefer to rely on faster, shorter answers so that Dov doesn’t become isolated from the group interactions. By this I mean, using spontaneously created multiple choice answers, yes/no and ranking systems.

Remember, you should always also offer the choice of “something else” or different, in case your choices are too far off from what the child means to say.

This system allows the child to interact in closer-to-real-time with more than one person. This multiple choice and ranking system is also used extensively in our school and it is very successful in allowing “group joint attention” in the classroom, and it enables our students to interact with each other and the teacher in real time.

A couple years ago, my sister Sarah created a social group called ‘Kids Club’ that meets weekly and includes a mix of typical kids and kids with autism. This group has been a big success and all the kids look forward to joining in every week. Activities include discussing hot topics, playing trivia and other games that do not require motor skills and talking about feelings. I will be writing more about this in the second part of this manual.

The Question Wheel:

To allow a child to ask questions we devised the ‘Question Wheel’. This is simply a wheel drawn on a sheet of paper, and divided like a pie with the question words: WHAT?, WHY?, WHERE?, WHEN? and HOW? (You can add others you may think of). The trick is, you have to remember to offer the question wheel to the child whenever there is an opportunity for a question or you think he might possibly want to ask a question. He can choose the kind of question he wants to ask from the wheel and then either point at a word in text (like in a book or newspaper, if you have been reading together), or type out a word or phrase that goes with the question. For example the child points at “WHY” and then types out dog, when you have been reading about a dog. “Why did the dog…? You suggest, is that the question you mean? Yes or No, and so on. Or if you are reading he can point at a word or sentence within the text, then choose the question word to go with it. You can also construct a fill in the blank for him, for example “Why is the dog _____? He can either spell the word or choose from multiple choice that you create on the fly.

Approximation:
Approximation of meaning is frequently okay. It is better to include the child in a group discussion in real time by using multiple choice than to leave him out entirely, or by default if he types out a sentence that is not completed in time to be a part of the conversation. It’s okay if his communication is not perfect sometimes and if it has to be approximate, the most important thing is that he have constant access to communication at all times. For this reason it is also important to make sure that he has plenty of opportunity to sit with you or other family members, friends, students, teachers, or therapists and be able to take the time needed to spell out long sentences that are exactly what he means in detail.

How long will it take before my child starts pointing?
This could take quite a while, like several months, but it could also happen in a matter of days or weeks. I have seen children start pointing almost immediately and others who took months to get going. Dov started pointing after seeing Soma once a week for 30 minutes, for six weeks. His progress has been gradual but he has come a very long way; he needs almost no physical prompting now but he still needs frequent reminders to keep his eyes in charge of his
hand. With much hard work, he has caught up to grade level.

Most of the kids I saw Soma work with seemed to show some results in the first session. Most continued to see Soma over extended periods of time but unfortunately many parents were never able to learn the method themselves.

So, although discovering normal cognitive ability seems like a miracle, it can still be a long, slow, frustrating process as the child builds the ability to communicate. At the same time, one of the most gratifying experiences for me has been to be able to give Dov the education he deserves and to be able to enjoy and appreciate his wonderful mind.

Because the child has had so little experience communicating, don’t be surprised if he amazes you with his answers to academic questions (because he has been learning all along) but still has a hard time answering simple communicative questions such as “What did you do today?” or “What would you like to eat?” Sometimes I think of this phenomenon as the “inside out brain”, meaning that the autistic child’s brain seems to develop higher-level cognitive functions before basic abilities such as communication come on line. This is why we have the opportunity to use this higher-level cognitive competency to access and build pathways back to lower level skills such as communication and speech. I will be writing about how pointing and literacy can be used to support development of spoken language, in the next installment of this manual (coming in 2008).

What’s next?

In this first installment of the Informative Pointing Method Manual I have attempted to explain what I have observed by watching others and what I have discovered in my own experience over the past several years about helping nonverbal/low-communicating kids to get started pointing and communicating. I have learned so much by observing a few key people who are very good at this, including Soma Mukhopadhyay, Heather Claire, Jill Thompson, Sharon Rosenbloom, Darlene Hanson and a handful of others. I have also tried to share what I have learned in my own experience working with Dov since he began to communicate at the age of nine.

I mainly address the basics of getting started pointing in this installment and I will be writing a second installment in 2008 that will address how to train others to communicate with the child, how to use this method in the classroom and for social interaction.

As many of you reading this know, I established an online community in 2007 for people to exchange information and learn about this communication method by using videos on an online social network something like MySpace or Facebook, but with a much more serious purpose. Chances are if you are reading this, you are already a member of the Community. The community grew out of an unmet need for information about how to help these kids get a better education and start to communicate and it was originally launched from the official Strange Son book site (www.strangeson.com) and will soon be migrated to it’s own home at www.descartescommunity.org.

This online Community is for families with nonverbal and low-communicating members and anyone who wants to try the Informative Pointing Method. To participate in this grassroots movement, I encourage you to join the online Community if you are not already a member and to share your experience and knowledge there. Most importantly I encourage you to upload video footage of your child to the Community site – even before you try this method and as you get started and then ongoing. In this way, we can help each other and at the same time create examples of how the method can work for others.

This manual and the method it describes are a work in progress and I invite all of you to give feedback and contribute your experience and discoveries to building upon and shaping this method.

I wish you the best of luck in your new adventure. Above all believe in your child and don’t get discouraged. There will be good days and bad, ups and downs and you will need incredible patience – but chances are you will succeed. Please let me know how it is going, I would love to hear from you.

- Portia
Acknowledgements:
I wish to acknowledge Soma Mukhopadhyay for allowing me to observe her and study the “Rapid Prompting” method. I have been inspired and informed by my observations of Soma working with numerous children and by the interviews I conducted with Soma and her son Tito over a two-year period. The description I am providing here in no way claims to be Soma’s method although I learned so much from her. To learn more about Soma’s method I advise readers to visit the HALO web site (www.halo-soma.org).

I would also like to thank all those courageous individuals who have stayed the storm during the past two decades as Facilitated Communication has undergone massive changes and met with immense challenges. There is much to be learned from their experience and there is doubtless much value to the collective wisdom that they have amassed over time about how to help individuals with autism communicate better. More information can be found at: http://suedweb.syr.edu/thefci/Index.html.

I am grateful to Heather Claire, Jill Thompson, Sharon Rosenbloom, Sonia Dickerson and Darlene Hanson for their inspiration and because I have learned so much from them and I am grateful for their ongoing support and encouragement. My thanks to Marion Blank at Columbia University, New York, for her innovative and inspiring research on literacy and autism and for fiercely believing in our children. I am indebted to Laurent Mottron and Michelle Dawson for their pioneering research that has begun to reveal the hidden intelligence of non-verbal people with autism (‘The level and nature of autistic intelligence’, Mottron, L, et al 2007). Special thanks go to the open-minded, compassionate researchers who did not dismiss the possibility that these children are intelligent and instead embraced it, among them are Mike Merzenich, Yoram Bonneh, John Houde, Tal Kenet, Pat Levitt, Sarah Spence, X. Ming and Ricki Robinson.

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My fondest thanks to my sister Sarah for her tireless support, enduring enthusiasm and her love for Dov. And of course none of this would have been possible if it were not for the tireless efforts of my son Dov to whom I am forever indebted for his enduring patience and dedication in participating in research and contributing to the betterment of all others who need to be able to communicate better.

Finally, I would like to extend my thanks to all those individuals who reviewed and commented on this manuscript.
FOOTNOTES & APPENDICES

INFORMATIVE POINTING METHOD
1.) Read an excerpt from 'Strange Son' book that discusses auditory and visual types.

“Autistic people are visual thinkers,” Temple told me over the phone. “Always give the autistic child a visual representation,” she advised. “They just can’t get it from spoken words alone.”

After I hung up, I sat thinking about what Temple had said as I watched Dov running around the kitchen wearing only a diaper. The therapists had already advised us to use more visuals and less language with Dov. He was not understanding language, they said, and that meant he probably never would. But pictures didn’t seem to help Dov either.

Standing with his back to me, Dov reached up, pulled a dishtowel from the kitchen counter, and threw it on the floor. “Pick that up, Dov!” I said crossly, just for the hell of it, knowing that he could not see me, much less understand what I was saying. To my astonishment, without turning around, Dov picked up the towel and put it back on the counter. I couldn’t believe it.

After a moment, Dov pulled the towel down, and again I asked him to pick it up, which he did, all while never turning around to look at me. It seemed as if he understood the words I spoke. How was that possible? What I had just witnessed went against everything I had been told about Dov and about autism.

Now, six years later, I was beginning to understand what I had seen that day. I realized that there was probably another type of autism, one that no one knew about because those who had it could not speak—the auditory type. From what Tito and Temple had told me, it seemed there were two major types of autism—a visual type, like Temple’s and an auditory type like Tito’s. Temple said that she experienced sensory overload early in life—very much like the “chaos” that Tito described. What if it were as simple as that? One type adapted by using their ears almost exclusively, the other by using their eyes.

In fact, Tito had stated this idea exactly in an earlier e-mail:

. . . . each Autistic person tends to develop one particular sense organ through which he tries to perceive the situation.

I have developed my hearing better than my other senses. I have learnt to be comfortable that way because trying to use all the senses turns into a total chaos.

According to this hypothesis, the visual autistic child, precisely because of his preferential use of vision, would have a distinct advantage when it came to imitating motor skills and behavior, especially the ability to produce speech. But this advantage would come with a high cost: the preferential use of vision would diminish development of auditory processing with catastrophic results in language development.

The auditory autistic child, on the other hand, would develop language. But he would have a different price to pay for exclusively listening and not looking. Because of greatly decreased visual activity, the auditory autistic child’s ability to imitate would suffer, severely diminishing his motor skills. This would impair his ability to produce voluntary actions and behavior, including spoken language. This type of child might always be perceived as cognitively low functioning, even if he was not.

But why did some children adapt by preferentially using their vision while others adapted by preferentially listening? I wasn’t sure, but I had a hunch. It was already known that vision was not normal in autism.

Perhaps at the more severe end of the autism spectrum, vision was simply too overwhelming to be useful and actually got in the way of understanding the environment as Tito described. This could result in avoidance of the use of vision, or, in effect, a kind of developmental blindness. Decreased use of vision from an early age would curtail development of activity-dependent visual processing.

Perhaps at the higher-functioning end of the autism spectrum vision was overwhelming but not to the degree that it was entirely detrimental. A child with a markedly superior capacity for visual processing could come to rely on vision too much, even become captured by it and mesmerized to the exclusion of using the auditory pathway. Decreased use of audition from an early age would curtail development of activity-dependent auditory processing, resulting in a deficit in capacity for language.

Both types of neural processing adaptation would result in abnormalities in neural representation, memory encoding, and retrieval, and interfere with pathways involved in communication. To put it mildly, none of this would be good for developing social skills.

From the book 'Strange Son' by Portia Iversen, copyright 2007, Riverhead Books.
2. Where is the child coming from?

Consider the fact that the child has missed literally millions of opportunities to interact with people over his lifetime. Then consider that these millions of missed interactions will have to be made up for to some degree. So already you know that the road is long. Practice is key. Patience is essential.

We all want more for our children and when we discover a child is more advanced cognitively, naturally we wish for the same advances in their behavior. The difference between the child’s cognitive ability and their behavioral ability is that their cognition may have been steadily developing over the course of their life with little obvious outward evidence while their behavior is exactly as you see it, usually very developmentally delayed. Behavioral abilities will take time to develop through experience because the development of social behavior requires interacting with people constantly, over an extended period of time. In a nutshell, you may discover an unexpected cache of cognitive learning but there is no hidden cache of social or motor behavior. It is not hard to understand how this split could have occurred since due to his autism the child has simply not had the experience of interacting with people in a reciprocal, synchronous fashion.

I want you to understand this communication method is not a cure or a total fix for autism. The autistic child has spent his entire life adapting to the world as best he can. The behavior that he has developed as a consequence of that lifelong experience is not going to go away overnight. Like any person the child will need to have an extensive number of intrinsically rewarding social and communicative experiences over time if his behavior is to adapt and change.

3. Read about hyperlexia:

One of the most confounding characteristics of many low communicating children is their ability to read and spell words in the face of an inexplicable difficulty in using their literacy skills for the purpose of communication. This previously un-described phenomenon, perhaps more than any other, has lead to a failure to recognize the low-communicating child’s cognitive ability.

Hyperlexia is a term used to describe a child who learns to read at a very early age, without instruction and usually has little or no comprehension of what he is reading. The kind of literacy I am describing here is not hyperlexia in the usual sense, although similarly to hyperlexia, the low-communicating child has often learned to read with little or no direct instruction, possibly through exposure to peripheral sources such as picture communication cards with the word labels written at the bottom, and from exposure to printed matter such as books and public signage. But unlike the hyperlexic child, the autistic child usually seems to have gained reading comprehension.

4. Literacy, language and communication may not intersect:

According to the Russian psychologist Vygotsky, language ('signs') start out as tools used to mediate human interaction. Very young children develop the use of signs to get their needs met rather than for the purpose of communicating with other humans.

The autistic child also has 'sign system' but it has not developed in the service of mediating human interaction. I believe that a great many autistic children do have an internal ‘sign system’—meaning they develop the ability to understand language, but not to use it for the purpose of communication. The autistic child’s internal ‘sign system’ may consist of phonemic awareness, the ability to read and spell and to think in language terms. He may have developed an internal sign system or language which he uses to think but not to interact with people. Learning to use this internalized ‘sign system’ to mediate human interaction is the challenge at hand. Only then can the autistic child’s language begin to be used to communicate.

Informative Pointing provides a way to do this.

5. Neuroplasticity, learned social helplessness & intrinsic reward:

We now know that neural plasticity, the brain’s ability to change and adapt to the environment thus affecting behavior, is a life-long activity that occurs in humans at every stage of development, across the entire lifespan. Thus in autism where the child’s ability to interact and synchronize with humans goes
off track very early, there is tremendous promise in any form communication that can reduce social isolation, jumpstarting social reciprocity and communication. Informative Pointing can be thought of as a form of neural-retraining because it gives the child the opportunity to regulate his nervous system through interacting with people instead of objects.

The concept of ‘learned social helplessness’:

If a very young child’s ability to impact their environment through their own behavior diminishes, the consequences are dire and may persist indefinitely in the form of ‘learned social helplessness.’ The autistic child’s diminished and consequently underdeveloped ability to interact with people is as fundamental and profound as the loss of any major sense such as hearing or seeing. This can be even more devastating to the child’s quality of life by interfering with his ability to generate intentional behavior and obscuring his inherent cognitive ability. The behavioral consequences of social isolation have been well-studied in animals. The non-purposeful, repetitive behaviors described in animals subjected to prolonged social isolation are remarkably similar to those described in autistic children (such as stimming). These non-purposeful, repetitive behaviors contribute further to the child’s profound social isolation, eventually displacing the development of many normal behaviors and motor skills. The tragic result is that the young autistic child’s opportunity to interact with people is profoundly diminished and the child develops in a social vacuum. All the while he is exposed to and even learning from the environment, but is unable to effect it. To compensate, self-stimulatory, repetitive behaviors develop, further interfering with social interaction and even usurping the development of age-appropriate behaviors and motor skills.

Intrinsic reward:

A primary driving force that leads to adaptational change is intrinsic reward – reward that is inherent to the behavior itself.

One of the most wonderful things I learned from Tito and later from my son Dov was that they, and probably most autistic people, have completely intact emotional drives of the sort most people have. This is such a relief because these are the kind of drives you cannot teach people: the drive to have friends, the drive to be loved and acknowledged, the drive to be accepted by your peers, the drive to be recognized for your talents and abilities.

Behavioral adaptation takes place when there is intrinsic motivation and thankfully there is intrinsic motivation for people with autism just as there is for the rest of us, in being understood, acknowledged, accepted and valued by others. In practical terms this translates into the fact that a child will sit with you and attend for longer and longer periods of time once joint attention begins to be established, because just like anyone, he craves reciprocity, interaction and being engaged with another person.

6. Pointing on a letter board: a form of joint attention and shared meaning using a stable information system.

The philosopher Descartes did not trust his senses. He gave as an example, the fact that he knew his house was large, and yet it appeared small when he viewed it from a distance. But, whether dreaming or awake, two plus two would always equal four, he proclaimed. With such unstable arousal activity and unusual sensory perception, it should come as no surprise that people with autism gravitate toward stable information systems. These are information systems that can be depended upon to retain their meaning regardless of ones own state of arousal or perception at the moment.

Some examples of stable information systems are the alphabet, reading, spelling, phonics, numbers, math and facts that do not change. The computer provides another very stable form of information. The definition of these stable forms of information is that they will retain their meaning whether you are experiencing a manic rage attack or lying on the floor zoning out. They are dependable information systems whose meaning and order will always remain reliable and stable. The beauty of the alphabet of course, is that it can be used to form words and sentences and to construct narrative that can be used to communicate.

The concept of the ‘stable semiotic field’ – a prerequisite for shared attention.

Anthropologist, Olga Solomon introduced me to the term ‘stable semiotic field.’ By this she meant a
shared focus of attention and a shared understanding of the meaning by both the child and the other person. This is the experience that most autistic children have only very rarely experience in their lives. When the information is stable and it’s meaning is not dependent on the child’s arousal state, joint attention can be achieved. The autistic child loves, even craves the experience of sharing mutual, synchronous understanding in real time with another person – something which they may almost never have had the chance to experience or enjoy. So the good news is that your child will want to sit with you and to spend time sharing experiences with you like reading and learning. He has actually wished for this his whole life.

7. Where to begin? ‘The Zone of Proximal Development’:

The Russian psychologist Vygotsky originated the term: ‘zone of proximal development’. This refers to the very next thing a person is capable of doing on the road to where they want to go. Zone of Proximal Development (ZPD) is often used to describe this concept as it relates to development or rehabilitation. For example if a patient has suffered a stroke and cannot speak, then speaking will probably not be the very next step on his road to recovery. The ZPD describes the very next step that is possible in the process of recovery and also in the process of development and learning. This is a wholly different concept than the commonly used rehabilitative approach that is also used in special education, of breaking things down onto their smallest components.

Identifying the Zone of Proximal Development in a child with autism means identifying the things that may be difficult for the child to do, but which are still possible for him to do. It means carefully observing the child to determine exactly what the child is capable of doing physically and motorically. Pointing, the most fundamental social gesture and the foundation of all communication, is a skill we take for granted in every child. It is a skill, which develops automatically, without instruction by the time most infants are one, and it is a skill that is almost universally absent in children with autism. This is significant because without the ability to point, a child cannot express what he knows at all.

What the child knows and what he is capable of showing you he knows are two totally separate things. For example, a child might know the alphabet but have no idea how to get his eyes and hand to the letter you requested. Assume absolutely nothing. It is the most basic components of the skills that the rest of us take for granted (like pointing) that present the biggest obstacle for the autistic child. Later, you will see how the Zone of Proximal Development is a concept that can be employed in a very concrete way in the early stages of learning to use Informative Pointing. I recommend the book: ‘Scaffolding Children’s Learning: Vygotsky and Early Childhood Education’, by Laura E. Berk and Adam Winsler (1995) to read more about these concepts.

8. Read about ‘scaffolding’ - it’s use in education and communication:

The term scaffolding, as it is used in the context of cognitive development, was originally introduced by Wood and colleagues (1974, 1975, 1989), who used the term to refer to the supportive measures which can enable the very first steps to be taken within the zone of proximal development. In other words, when you identify the next level that the child is capable of achieving – the level just beyond his comfort range, yet within reach, you will need to provide the support or scaffolding that will help him make the leap up to the next level of ability. Researcher Barbara Rogoff refers to this as ‘guided participation’.

Scaffolding is a very important concept to keep in mind especially when you are first getting started working with a non-verbal or low-communicating autistic child. Scaffolding can take many forms depending on the child’s level or ‘zone of proximal development’.

Use whatever kind support is helpful for the child in the beginning, be it auditory, visual, physical or a combination. Don’t be afraid to use whatever degree support that is needed at first – this is not a contest to prove the child has intelligence, it is a beginning place for him to establish a meaningful connection to the world.

Having said this, independence is also very important for the child for many reasons including self-esteem, but he must begin in his own ‘zone of proximal development’ with whatever scaffolding is re-
quired to take the first steps toward communication. You will need to keep a sharp eye on the child’s progress and recognize his emerging capabilities so that you can fade these supports as soon as possible. Be careful to avoid ‘learned helplessness,’ don’t get stuck on a certain level of support or challenge, move toward independence at every opportunity.

9. Note about Verbal reinforcement:
Verbal reinforcement is separate and distinct from verbal prompting and should be reserved for after the session. It should also serve as accurate feedback. If the child tried hard, but did not did not point accurately, then verbal reinforcement should be directed at the child’s efforts, not the results (thereby remaining accurate). “You really worked hard.” would be an appropriate remark for example, instead of “Great pointing!”. Or if the child made moderate improvement: “You’re getting better.”

The child is not getting reliable feedback from the environment so it is essential that you provide accurate feedback about how he is doing. If the child is asked to point at the letter ‘A’ for example and his finger lands on the letter next to ‘A’, a simple “no” is good feedback which can alert the child to visually check the location of the letter ‘A’ and self-correct. If the child does self-correct and points at ‘A’, then “yes” would be useful feedback.

Don’t say “Good job!” for every attempt a child makes, this does not contribute to the child’s progress and may even impede it. One last caution, loud verbal praise during the session will over-excite and distract the child. The child needs a steady pace and feedback that reflects how he is actually doing specifically at that moment, and not in general. Save verbal reinforcement for after the session, not during the pointing practice.

10.) Read an excerpt from Strange Son about the role of arousal in autism.

“Because the shoes made an impression and the breakfast did not.”

Did that mean if Tito was made to pay attention to a specific event that he would be able to remember it later? Could you control what made an “impression” on Tito? Was that what Soma was doing?

Then it hit me—their arousal had to be externally modulated. It had to be activated, oriented, and maintained for input or output to occur. And Soma had figured out how to do just that.

Now suddenly I understood why Soma’s method worked so well for learning information but not so well for learning from ordinary life situations, which meant not so well for recalling personal experience either. After all, what exactly should she call Tito’s attention to in everyday life? It seemed so unnatural to narrate another person’s moment-to-moment existence. And it occurred to me that this was sort of what Soma had done during those years that she had ferried Tito around town daily, describing everything in the environment to him.

It dawned on me that this is what the typical human mind does: It pays attention to the right things in the environment, moment to moment, in real time. Apparently we learn this very early in life, like paying attention to faces. But how do we know what the “right things” are in the first place? By the arousal level associated with them, which would determine not only what is remembered but also what will be noticed in the future.

Did that mean if I could get Dov to pay attention in a situation, say, for example, to what he was eating for breakfast, that he would be able to recall it later?

This must be what Soma meant when she referred to what she was doing as her “teach and test” method. So simple, yet so profound. She’d been telling me all along, I just hadn’t understood. Information in, information out—both required modulating arousal and thereby attention. First to encode the information and then to retrieve it. Which would explain why Tito could not answer a single question about the story Raj read to him at Merzenich’s lab when Soma wasn’t in the room. They didn’t know how to alert and maintain Tito’s arousal and attention and so there was no memory trace to draw from when they questioned Tito about it.

I thought back on the arousal studies that Bill Hirstein and I did with Ramachandran a few years earlier when we studied forty autistic children using the Galvanic Skin Response (GSR) measure. What we saw was remarkable—the autistic children’s arousal levels were off the charts, and not only the highs but the lows too. They had, on average, three times as many arousal peaks per minute as the control subjects.

Many people argued that these wildly abnormal arousal levels could be the result of the anxiety
caused by the testing itself. I might have wondered if this were true had I not become obsessed with learning what was going on inside Dov. Until I saw Dov’s GSR readout, I didn’t know whether he was completely out of it or if he was experiencing an excruciating overload of stimulus, which caused him to look that way.

The GSR readout provided a window into Dov’s inner state; it gave me a new understanding of him and a kind of connection to him. So I bought the equipment and watched Dov’s arousal myself, at home in his normal environment, over a period of weeks. I saw that his arousal shot up and down like lightning bolts across the computer screen even as he sat quietly on the couch staring into space, and I became convinced that what I was seeing was not merely an artifact caused by the testing procedure.

But no one knew what to make of this, much less what to do about it.

If the arousal levels of autistic children were fluctuating so wildly, how did this affect what they were experiencing, and how did that in turn affect what they were encoding? And what about the retrieval of information that was encoded like that, coupled to irrelevant arousal levels? How would the brain know where to find things? Or what was important?

I began to understand how important it was for a brain like Tito’s to deal in stable information, information that was not dependent upon arousal for its meaning—numbers, letters, facts, anything that could maintain stable meaning, in spite of careening arousal levels that could associate incoming information with irrelevant levels of arousal.

Whether Tito’s arousal was soaring off the charts or bottoming out, whether he was experiencing an acute panic attack or he was attentionally blind to his surroundings, the meaning of numbers, letters, and factual information could be depended upon to remain the same.

Ramachandran had coined the term salience landscape to describe what people’s brains encoded as important. He said he thought autistics had an abnormal salience landscape. I was just beginning to understand what he meant. You had to populate a young mind not only with information but also with the relative importance of that information. The autistic mind was not getting a reliable reading of the environment in terms of the relative importance, or as Ramachandran put it, the “salience of things.”

Normal arousal activity was not something people learned by being taught. Typical patterns of arousal activity were driven and shaped by experience. But something had gone terribly wrong in the autistic brain and arousal activity seemed to be uncoupled from experience of the environment. Unless you could find a way to regulate arousal activity, the autistic person could not easily learn from the environment as they experienced it. From the book ‘Strange Son’ by Portia Iversen, copyright 2007, Riverhead Books.

11.) Lesson plans from Soma’s website:
Soma’s organization HALO (halo-soma.org) has a member’s forum which you can join for a fee. There you will find a nice collection of mini-lessons submitted by members. You may find these helpful and they may give you ideas for creating your own mini-lessons for your pointing sessions with your child. I also recommend edhelper.com which is a bargain at $19.99 a year and has many lesson plans and can generate customized multiple choice tests on the fly.
THE NEW STUDENT

When starting with a new student there often needs to be a transitional period of 1:1 instruction. Students are often resistant at first if they have had no academics in the past or no means of communication. They may be resistant to the demands of the class, the class environment, and exposing what they know for the first time. Often their resistance, fear and insecurity are displayed in their behavior. The student can act out aggressively, be loud and disruptive and refuse to cooperate. Choose a place that is quiet with no distractions. Talk to the student to ease their anxiety. Establish a rapport with the student. Let them know that you understand it may be hard for them, but that you know they are smart and it is ok for them to tell what they know. The first sessions may be short. You want the student to start responding to questions about general things. Try to end the session when things are going well, not when the student is agitated or reaching their limit. Be persistent in getting the student to respond to questions. Ignore any repetitive behaviors, vocalizations or any initial aggression. Do not put yourself in harm’s way. If the student is extremely aggressive have another person in the room with you to help remove them if needed. Don’t give up. The behaviors will pass. If you have access to a swing, therapy ball, trampoline or a fidget toy these can help reduce some of the student’s behaviors when first starting. Have the student swing or bounce for a few minutes then ask them a question. After you get a response let them swing again then ask another a question. Start to decrease the swing or bounce time and ask more questions. After the student responses become consistent, have the student sit at a desk or table with you sitting on their right side. Continue your sessions and follow the hierarchy or questioning. When you start with academics try to make an assessment of the student’s grade level. Start with basic comprehension and basic math and work towards harder material.

When the student is ready for the classroom, give them sensory breaks and be attentive to their anxiety level. You want them to be successful…..so ease into it.

STARTING WITH QUESTIONS

BASIC OBJECT IDENTIFICATION
You want to start by asking the student about things in their environment. In the beginning these are easy questions that you both know the answers to. This teaches the child the process of choosing an answer.

Identify objects in the student’s environment. Identify the object and its function, such as furniture, toys, food, friends, family, rooms in the house etc. Ask or show the student an object, “What is this” or “We do we call this?” You are using objects in the room at first so the student can reference them. Next, write and spell out loud the two choices on separate pieces of paper.
Ask the function of an object. “What do we do with a chair?” “We sit on a chair?” or “We write with a chair?” (Tap on the word as you read it)

Ask: “We write with a pencil or a ball?”

READING COMPREHENSION
Reading comprehension can be used early on in the students’ academic lessons. For auditory learners it is often easy and successful. For more visual students looking at the book while you are reading maybe important. Some students prefer to fidget with something or draw or color while they are listening, it helps them focus. For beginning students read preferred, age appropriate material. Some students prefer story books, others prefer science, trains, cars or animals. Their responses are written on paper for them to pick up or point to. For the more advanced students use more academic material. The lesson should include the student typing/spelling answers, doing worksheets and taking quizzes and tests on the material.

TEACH: Read a short age appropriate story, then ask questions about the story. For longer stories read a paragraph in a story then stop and ask questions about the paragraph.

ASK: Ask about the characters, their actions, feelings, the setting, main idea, vocabulary or predictions.

Using Pictures in the Book
You want the student to use visual information when reading or hearing a story.

TEACH: Have the student look at the pictures in the story then ask the questions about the pictures.

ASK: Ask about the setting, the characters, any actions depicted, the colors used in the picture, if it is a photo or a painting.
Hierarchy of Questions
When a student is first starting out they are being taught how to choose. The questions being asked are basic ones. It is important to start asking questions with basic answers and work towards more complex answers such as open-ended questions or personal information. The hierarchy will ensure the student’s success.

- **Closed questions**
  - YES/NO question
  - Questions about student’s environment
  - Physical objects
  - Body parts

- **Complete a statement**
  - Academics

- **Less Predictable**
  - Ask a question about a story, an opinion or prediction
  - Ask about the day’s events

- **Open-ended questions**
- **Talk about Self**
- **Engage in conversation with peers**
- **Initiate conversation**

**SPELLING WITH POINTING**

If the student is pointing to answers, have them spell by pointing to the letters on one piece of paper. Set up your paper by folding it into one strip. Divide it into sections and write the letters of the word out of order. Write them in front of the student and say each letter. Hold the paper up in front of the student.

ASK: “How do we spell road?” “What is the first letter in road?” Prompt the student to touch a letter. After they touch R say “R” then “Next” and continue this way until they spell the word. If they get the wrong letter ask them to try again.

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D O R A
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You can start with two and three letter words to help pointing become more accurate.

When the student is able to spell 5 and 6 letter words move on to a modified spell board. Make a spell board with letters in ABC order or the QWERTY order on a piece of 8½” x 11” paper. When using the letter board, hold the board up in front of the student not flat on the table.
Start with the first row of letters and ask the student to spell a word.

**Ask:** “Spell TOP”

Show the first row of letters only

| Q | W | E | R | T | Y | U | I | O | P |

Say the letter as the student touches it.

You can use the whole alphabet, but only show one row of letters at a time. Hold it up in front of the student.

**Ask:** “Spell SUN,”
Show row 1

| A | S | D | F | G | H | J | K | L |

Show row 2

| Q | W | E | R | T | Y | U | I | O | P |

Show row 3

| Z | X | C | V | B | N | M |

After the student is doing well with one row showing, you can show two rows.

**Ask:** “Spell HIDE”

| A | B | C | D | E | F |
| G | H | I | J | K | L |
Appendix A – by Heather Clare

Ask: “Spell TABLE”

Show rows 1&2

<table>
<thead>
<tr>
<th>Q</th>
<th>W</th>
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<th>R</th>
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<td>H</td>
<td>J</td>
<td>K</td>
<td>L</td>
<td></td>
</tr>
</tbody>
</table>

Show rows 2&3

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<tr>
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<th>S</th>
<th>D</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
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<tr>
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<td>X</td>
<td>C</td>
<td>V</td>
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<td>N</td>
<td>M</td>
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<td></td>
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</table>

Progress to using three rows, then four rows if using the ABC board, then the whole spell board. When starting with the whole board, always start with a warm up concentrating on one section of the board at a time. This helps the student move their hand in all quadrants of the board. Try to notice any difficulty the student has in movement to parts of the board or any visual difficulties they may have. Some movement of the board between touches may help the student focus on the letters if visual attention is difficult for them. Keep the pace going from one word to the next. Going slow will lose the student’s focus.

For example to concentrate on the lower left quadrant use the word MUST.

Ask: “Spell MUST”

For the top of the board

Ask: “Spell BIKE”

<table>
<thead>
<tr>
<th>A</th>
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<th>C</th>
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<td>Z</td>
<td>YES</td>
<td>NO</td>
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</table>

Do the same if you are using the QWERTY board.
When the student is using the board successfully you can ask questions that have concrete answers.

Ask: “What is the opposite of HOT?” or “In the house, where do you cook?” DO NOT ask personal questions or open-ended questions until the student is communicating successfully with minimal physical prompts. This keeps the communication reliable.
RAPID COMMUNICATION Training: 
Techniques For Use With Non-Verbal/Autistic Children. © 2007
By S. A. Jones

After years of sensory-based therapies to help Dov Shestack, who is autistic and non-verbal, to point, touch, and see at the same time, so that he could accurately select letters and numbers, we are able to now use spell boards, multiple choice hand-written on paper, and other related mechanisms to communicate. The problem: it takes months for anyone else to develop a proficiency with Dov in using this pointing skill he has painstakingly perfected, to communicate.

Recently, however, I had the opportunity to train several people to work with Dov, including being able to communicate with him. Though often in the past this has been a slow process, as we progressed and circumstances necessitated it, I have discovered that it is possible to train new people very quickly to have successful communication with Dov.

My first trainee this summer, Jesse Weinstein, had no background working with autistic or special education children. Our training lasted approximately six weeks, with Jesse gradually taking over, working independently with Dov. Several of these sessions were taped. Both Jesse and I also wrote brief reports about our sessions with Dov.

After a couple of times Jesse was able to start to communicate accurately with Dov with ‘yes/no’ and some multiple choice (numbers 1-4 and letters a-d), or by writing several words on a sheet of blank paper and asking Dov to select one for an answer.

Recently, it became necessary to develop a faster training regimen for communication, using two charts. To my knowledge, Jesse has yet not used the charts due to our schedules, nor has his progress communicating been as rapid as with another trainee Shannon Connors (described below), although Jesse’s progress was faster than mine when I started to communicate with Dov.

Michele Mills, another trainee with no prior experience working with children with autism, has also had rapid communication training, based on these charts. We spent about one hour going over information. Our session was taped. To date (09/07/06) I have not heard how her communication with Dov has been going.

Of note at this session with Michele, Natalie Pearce who is a highly trained therapeutic aid and has worked with Dov for several years, joined us, and wanted to try out the communication charts (explained below), with Dov, too. Natalie later reported that the charts were easy to use and very helpful.

To date then, Michele, Natalie and Shannon have used parts or all of this new training technique to rapidly learn how to have basic communication with Dov.

To start, this rapid communication training method was instigated and improvised out of necessity at the Autism Extreme Sports Camp near Aspen, Colorado, Aug. 13, 2006. That first night I had only a brief period in which to train Dov’s camp buddy Shannon Connors, an undergraduate college student with some experience working with autistic kids, before she began spending extended periods of time with Dov, without anyone else who knew how to communicate with him.

With only one session, it was necessary to condense training that I had spent several weeks doing with Jesse. The happy result was that after approximately one hour, Dov and Shannon were able to communicate right away, and on the spell board.
and charts with multiple choice question and answer communication all during the following day -AND- within less than 48 hours, Dov was able to spell out a one-word answer to an open question with Shannon on the spell board with only a few brief verbal prompts from me.

Sunday evening I gave instruction and demonstrated with Shannon and Dov how to do multiple choice ‘one-pointing finger / one-mark’ answers. Later I used a marker to draw two simple charts on 8.5x11” sheets of paper that could be folded into thirds with several categories. These charts and a spell board were the only tools Dov and Shannon would have to communicate the first day when they would be at the Autistic Extreme Sports Camp for many hours without me.

KEYS TO A QUICK START:
TWO SIMPLE CHARTS AND “R.A.P.T.”

Two simple charts and some helpful prompts can provide enough choices to begin communicating on a variety of topics. But before discussing the charts, to make them work, it is helpful to learn R.A.P.T. (Rapid Arousal Prompting Technique) to successfully instigate and then keep communication going.

Single digit pointing can be a slow, laborious process, to communicate. Try using a spell board to have a conversation the way someone like Dov has to. Use one finger only to point. Immediately it is clear that there needs to be a way to make it rapid, interesting, and that everything gets switched up a lot instead, if you want to succeed. This is where R.A.P.T. comes in. It is, in fact, what R.A.P.T. is all about; using HIGHLY REWARDING STRATEGIES to exchange information as quickly and accurately as soon as possible VS. struggling (and most likely failing) to spell out long sentences from the get-go. That will come later.

The fastest way to get started: one-letter/number answers. Both the trainee and Dov can do well in a short practice session and then move on, so communication stays interesting and rewarding. Not sure it’s possible to have a conversation with only a few categories? If it’s be stuck or get creative, it can be surprising how many ways there are to get a point across or keep a discussion going if one is willing to be creative.

No one wants to take a long, hard, frustrating path to communicate, autistic or typical. Further, no one wants it to always be difficult to do, even once the skill is mastered. Unfortunately, when communication first began between Dov and people who could speak, we were learning and inventing as we went along. It took about six months before I was at the point with communication that I was able to teach Shannon to get to with Dov in less than two days.

So always, what I counseled Shannon to think was, what will be the fastest and most arousing? What will get the quickest turn around? What can you do that has an immediate, highly rewarding feedback loop that takes place in a matter of seconds? What will be most engaging?

It takes a toddler learning to walk, falling down about two hundred times before they master the skill. What keeps them going? Not an eight hour session at a gym with a trainer every day. Something has to be so fascinating, that going after it, falling down and all, is worth it.

Similarly, if a stroke victim must practice for months to relearn to use a spoon, how do they keep going, without becoming depressed and hopeless? What would most people find more motivating to keep on trying and practicing, bits of chocolate that they could eat if they succeeded, or pebbles?

With pointing communication, which would someone with no experience -or-- someone with difficulty pointing want to start practicing with more: a technique that brings immediate results, or a technique that takes months? Would they want to be...
able to communicate relatively quickly or slowly? Would you (or they) want to be able to immediately verify an answer, or go through a long, ambiguous process?

With R.A.P.T.'s it is easy to develop and use strategies that will keep you and the person you are communicating with, going. It has a lot of other uses, too, but for now, keeping R.A.P.T. in mind (which is what I told Shannon about first), here is a description and explanation of how the two simple communication charts Dov and Shannon, and consequently others have used, worked:

**CHART ONE:**
The first chart is “in order” re: numbers and letters.

**TOP THIRD:**
Numbers 1-4 (ranking –or– one to four possible answers)

**MIDDLE THIRD:**
(Three categories of two-word-choice answers)

**BOTTOM THIRD:**
Letters A,B,C,D (ranking –or– one to four possible answers)
e.g.: “If ‘A’=eat; ‘B’=rest; ‘C’=relax’ -and- ‘C’= something else; pick which one you want to do.”

General instructions, are written on the right side, so that, if needed, the third of the page could be folded in half, with choices facing someone nonverbal (like Dov) and the other information facing the person who is talking (like Shannon).

The **SECOND CHART** is the same as the first, except the order of each category is mixed up, and slightly different words are used, so that if two people like Shannon and Dov got ‘stuck’ or if Shannon wanted to verify a response, she could refer to the other, re-ordered categories.

SEE NEXT TWO PAGES FOR SAMPLE CHARTS which can also be hand-written or typed, using vertical (|) and horizontal (-) lines (+) for the middle third to divide the word pairs yes/no, true/false, agree/disagree.

```
1 = best                                      } 1-4: 1=best,
2 = O.K.                                     } 2=OK, 3=poor,
3 = not so good                               } 4=worst.
4 = horrible                                  } Use for
   } ranking &                               } multiple
   } choice. Each                            } response can
   } involve 2-4                              } choices.
```
The Informative Pointing Method

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<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRUE</td>
<td>FALSE</td>
</tr>
<tr>
<td>AGREE</td>
<td>DISAGREE</td>
</tr>
</tbody>
</table>

A = }  
) (Use for ranking & multiple choice. Each response can involve 2-4 choices. A good category for one of the choices is: ‘something else’.)

B = }  

C = }  

D = }  

4 = terrible/worst } 1-4: 1=best, 2=OK, 3=crummy, 4=worst. Use for ranking & multiple choice. Each response can involve 2-4 choices.)

3 = pretty lousy }
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<table>
<thead>
<tr>
<th>1 = excellent/fabulous</th>
<th>2 = so-so/ho-hum</th>
</tr>
</thead>
</table>

False | True
---|---
No | Yes

Disagree | Agree
---|---

C =   

A =   

D =   

B =   

(Use for ranking & multiple choice. Each response can involve 2-4 choices. A good category for one of the choices is: ‘something else’.)

As long as the charts involve these categories, they may be rearranged, especially if a new set is used each session/day, to switch things up.

**Helpful information for Rapid Communication:**

1.) Dov and many other non-verbal autistic children are just as smart as typical kids their age. They can hear perfectly and understand most of what is said.

2.) Dov is good at pointing and spelling, but YOU are new and have to learn how to communicate with him. Fortunately, Dov is patient with beginners. If he becomes agitated, it usually turns out to be for a good reason. As you become skilled and Dov gets used to your individual ‘style’,
communication will go more smoothly, and you will become more accurate and confident 'talking' with each other.

3.) Typing individual letters with one pointer finger is time-consuming and laborious for Dov and you. Therefore, to get off to a successful start, ask questions that can be answered with a single pointing of Dov’s finger. Begin with something very basic.

FOR EXAMPLE: To see if Dov would like to have a snack...

Ask “Do you want a snack? –Yes or –No: pick one.” Use the chart above or, improvise using a blank piece of paper with ‘yes’ and ‘no’ written far enough apart, that Dov can only point to one or the other.

Since YOU are new at this, you may want to test Dov’s answer, to make sure it is accurate (i.e., that he is not just obsessively-compulsively pointing to one side of the paper, or answering the opposite of what he actually wants).

Say to Dov: “I am new at this. I am learning. For practice, let’s do this again.” NOW use another category of the question/answer dynamic, or the other chart with the choices in a different order, still only requiring one pointing of Dov’s finger to answer. Use the charts -or-- have other sheets of paper already prepared. On one sheet, reverse the order of ‘yes’ and ‘no’, again spacing them far enough apart to be able to clearly distinguish which one Dov is pointing to.

If you get the same answer, you can be pretty sure it is accurate. If you get an opposite answer of ‘no’ (as in, ‘no I don’t want a snack’ vs. ‘yes I do want a snack’), go to another category on the chart or another sheet of paper that says ’true’ and ‘false’ -or- ‘agree’ and ‘disagree’.

Rephrase and ask the question again, reiterating that you need clarification: “I need to practice, / I need to be sure I am understanding; let’s try another category: Do you ‘agree’ -or- ‘disagree’ that you want a snack? Pick one.”

You could also say; “Tell me, would this be a ‘true’ or a ‘false’ statement: ‘You do NOT want a snack?’ Which is it, ‘true’ -or- ‘false’?”

4.) Use ‘open’ questions as much as possible.

For example, instead of saying “Did you have a good/bad day?” ask something neutral like, ‘How was your day? Pick a number one through four, with one being the best and four, the worst.” This way the answer can be made quickly with one pointing of the finger, vs. answering with a word, phrase or sentence, which is not likely to succeed at first.

Two other good ‘open’ questions, when you are starting your time with Dov are: “How is your body? Pick a number 1-4 with one being excellent, two so-so, three not too good, and four being lousy.” --AND-- “How is your mind...”.

5.) If Dov gives an extreme answer (a ‘one’ or, especially a ‘four’), switch to another category and rephrase to confirm his answer. Then, if it is still extreme, take a blank sheet of paper and break down what is happening with Dov by multiple choice/category with him pointing.
For example: If Dov answers with a ‘4’ (bad) for his body you could then switch to “Did you point to ‘4’ because your body is not feeling good – ‘yes’ or ‘no’. Check and pick one.”

Now try to specify more with another category: “Tell me, if ‘A’ equals ‘pain’ and ‘C’ equals ‘something else’ which one are you feeling with your body? – A or C? Choose which letter.”

If Dov picks ‘A’ = ‘pain’, go back to the number category and ask; “If ‘1’ = virtually pain free and ‘4’ = ‘bad pain’ which number, one through four, are you feeling? Look and pick a number. Be specific.”

Next, use the letters A-D and/or a blank sheet of paper with up to four general categories and have Dov point/select one, moving on until you identify what is painful.

When you get down to a specific body part or parts (a headache and/or sore feet, etc.) go back to a category and confirm: “So would you ‘agree’ or ‘disagree’ that a tooth AND your legs are in pain? Show me.” If Dov disagrees, you might ask, “Is there something else bothering your body, ‘yes’ – or- ‘no’?” If Dov points to ‘yes’, repeat the four-choice, A-D process above.

6.) Sit or stand on Dov’s right side only for communication. We believe this stimulates his left brain, the thinking, logical hemisphere and helps facilitate calmer, better interaction.

7.) Dov has trouble with sensory integration (touching and seeing at the same time, etc.). Help him orient with VERBAL and TOUCHING prompts.

VERBALLY, Give exact directions and neutral prompts.

EXACT DIRECTIONS (UP, DOWN, RIGHT, LEFT, LOOK, TOUCH, ETC.) - Keep reminding Dov to:

“Check with your eyes”; to “Use your eyes”; to “Look while you touch/point”; “lift your head; look up; you have to look and point at the same time to point accurately;” etc.

“Use your pointing finger. Rest your left hand. Hold your beads/rock/tissue in your left hand and rest it.” Etc.

VERBAL PROMPTS - Keep affirming Dov:

Each time Dov deliberately points, he will give a ‘jab’ to the paper. If Dov ‘jabs’ a specific answer give a verbal response such as: “good”, “thank you”, “I will take that as a ‘yes’/’disagree’/’number 2’/’letter c’,” etc.

If Dov does not ‘jab’ but seems to be giving a specific answer by resting his finger in one place, request that he “be specific”, “give it a push/jab”, etc. stating “so I know it is the answer you want to give.”

If Dov does not seem to be giving any answer give a verbal prompt again to use his eyes (see above) and/or do touching prompts (see below) and/or switch to a different category and/or chart and rephrase the question (for e.g. instead of ‘Do you want a snack?’ try ‘Do you want to eat –or- something else? – Eat is ‘A’. Something else is ‘D’. Show me which letter you want for your answer.’

TO TOUCH: sit or stand close enough that your bodies touch.
To sit, have the upper part of your left leg against the upper part of Dov’s right leg. To stand while Dov sits or stands, put your left hand on his right shoulder. Have your body side-by-side or slightly behind Dov’s. You may also pick up and drop his right hand to get started or squeeze it gently but firmly and let go.

If Dov is stimming or holding something, ask him to put the item in his left hand and have him hold it there. If he cannot hold his left hand still, place your hand over his left hand gently but firmly to ‘remind’ it to stay quiet.

Sometimes it can help to put your left hand holding the chart under and between his right arm and torso, holding the chart. Then use your left hand for other prompts described above.

MOVING ON FROM THE CHARTS TO THE SPELL BOARD

WHAT TO DO AT FIRST W/ PROMPTS ON SPELL BOARD:

When you have mastered pointing with Dov using charts, you can move on to basic communication on the spell board. To practice you may want to start by FOLDING a paper copy of the spell board so that only the top left corner is showing with:

1 2 3 4
A B C D

Use the following categories for communication with this small section of the spell board:

Numbers 1-4 (ranking [1=great; 2=O.K.; 3=crummy; 4=dreadful] or multiple choice with at least two choices and as much as possible starting with at least one category being ‘something else’)

Letters A-D (multiple choice with at least two choices and as much as possible starting with at least one category being ‘something else’), and ‘A’=Agree/’D’=Disagree.

When you are confident about getting accurate answers, open up the entire board and broaden categories to include four more letters:

Y = yes
N = no
T = True
F = False

Next, start to use all of the numbers with questions:

1 2 3 4 5 6 7 8 9 0

Math and numbers are very exact. Dov is very good at math. Start with simple questions, stating you know that Dov is good at math, but YOU need to
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practice with him. Ask simple problems to start with two digit answers where the two digits are far apart, for example: “What is thirty plus nineteen?” Dov will have to point to two digits to answer: ‘4’ and ‘9’, which are far enough apart that YOU will be able to be clear as to whether or not he is answering correctly.

A more interesting way to practice with numbers and letters on the spell board is to read a newspaper story, stopping frequently to ask Dov math or other questions that can be answered with categories and rankings with Y, N, T, F, A, B, C, D, and 0-9. For example: “How many years did they just say the firefighter worked?” –or– “Do you agree or disagree that it was a good idea about the homeowner going back inside to rescue a pet from the fire?” –or– “True or false: According to the story, did the fire spread to the neighbor’s house?”

OPTIONAL EXERCISE:

To switch things up practicing communicating with Dov, take a blank sheet of paper and record the letters and numbers in a different order. Have Dov answer from the paper. At another session, take another sheet of paper and re-order and record the same letters.

Practice for YOUR skill building with Dov by mixing it up. Do an ‘I-Spy’ letter or word spelling game. Say, “I Spy the letter –or-- the word...

‘C’ or ‘daft’ or ‘Y’ or ‘bay’ etc.

Have Dov find and point out the letter or letters that make up the word.

After you get good at this with Dov, this game can then be done on the big spell board...

Start with single letters or numbers: “I spy the letter ‘Z’” or, “I spy the number ‘7’”

Next go to two letters or numbers as in “I spy the number ‘27’” or, “I spy the letters ‘A’ and ‘P’” or, “I spy a ‘3’ and an ‘H’” etc. Then move on to three letters and begin to find short words on the spell board or a longer number.

WORD COMMUNICATION ON THE BIG SPELL BOARD:

It should now be possible to venture into simple word answers on the spell board, to expand and better authenticate communication.

Because you are now starting to use single-letter/number AND multiple-letter/number communication, it begins to be more open-ended. Still, it is a good idea, even for advanced communication, to start by broad multiple choice categories, narrowing down to specifics, with short answers to keep communication moving along.

Do NOT begin, for example, by asking an open question that requires a sentence to be answered.

DON’T ask, “How was your day?”

UNLESS you follow with something specific like, “Give me a number 1-4.”

THEN because YOU are still learning, say so, and ask Dov this: “Because I am just starting to communicate on the spell board with you, I need you to help me practice. I thought I just saw you point to the number ____. Is that what you pointed to YES or NO, go to to ‘y’ or the ‘n’ to answer.” When you can verify with
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Dov that ‘y’ –YES-- you understood Dov’s answer, go to the next practice question/answer.

Say, “O.K. let’s practice some more. Can you spell out the answer ‘yes’ for me, so I can be sure of your answer and pointing. This will be good practice for both of us.” Then have Dov spell out ‘y-e-s’.

Once you get the hang of the spell board, give multiple choice numbers or words for answers and have Dov start by pointing to the number or the first letter of the answer. Then to verify and/or for practice state which one you are doing with Dov, and have him spell it out. Be sure at first to use short words (for your sake) -or- ask Dov to just spell the first 3-4 letters of a word or number (again, for your sake – YOU are probably not ready to do more than four letters!)

For example, state: “I saw you point to the letter ‘R’ for your answer to ‘Do you want to stay here (s) or go for a ride (r)?’. Now, ‘y’ or ‘n’ (yes or no) can you spell out ‘ride’?” –If Dov Points to ‘y’ (yes) say, “Good. Go ahead, spell out the entire word for your answer so I can practice pointing with you.”

To ensure success, it is important to keep breaking down discussions into short answers, continuing to mix up and verify by changing options for responding.

WHEN (not if) YOU GET STUCK:

Because of the sensory integration challenges Dov and other similarly autistic people have, they may seem unresponsive. This can manifest in many forms, and occurs even with typical people who have a lot of experience and training communicating with non-verbal people with autism. They may stimm with objects, body motion, and/or sound; turn all or part of their body away; avoid eye contact; and so on.

Another problem can be that the person with autism does not get going on the letter board or move their pointer finger to answer on the chart. Suggestions described earlier are key to getting things going again, BUT . . . be careful! It is easy to slip into a bad dynamic of raising your voice and with it your temper, repeating the same words over and in response to the MIS-perception that the person with autism is not understanding and/or paying attention.

Most likely this is NOT what is happening!

Wait a few seconds. The person with autism may just be getting organized to do more than one sensory operation at once; they may be collecting their thoughts; they may be thinking how to express something in as few words as possible because pointing to each letter is a lot of work and they want to get it exactly right the first time. After a few seconds if they are still not responding, repeat what you just said, in the same tone, at the same volume. Try giving neutral prompts and reminders in a calm voice as described earlier. If you get really stuck, rephrase the question/category. If that doesn’t work, take a break. Drop what you are doing for a few minutes, if possible, and just relax. If someone else is available, have them step in. Sometimes just having a different person shifts the dynamic and things begin to move again.

Ask how the person with autism’s body (1-4) and their mind (1-4) are feeling. These questions each require a single digit response. If the person is in a lot of physical or mental distress, that may be why they are not responding to other attempts to communicate. Usually when one of these issues is identified and addressed, other communication is able to successfully resume.

How can you tell if someone with autism is listening and engaged? First, if they remain next to you or in the same room and within hearing range, they are probably
paying attention. Second, you can keep asking questions and getting answers, especially about what you have just been talking about. Then switch up the categories, as with the two charts and ask the question again, stating YOU need verification.

You can also move your body or ask them to move theirs (just be very specific with directions) to feel more connected. Say, “I am moving because I need to see you better to communicate.” Even better say, “Turn your body toward me, so I can better communicate with you. I need to see the front of you. This is how typical people are able to communicate better. Turn your head toward me so I can see if you are nodding ‘yes’ or shaking your head ‘no’. I need to see your face to know which one you are doing.”

A brief glance, or periodic brief glances, is enough. For many people with autism it is difficult to stay on task listening or pointing, if they use their eyes too long in conjunction with another sensory function. To continue, they may quickly ‘grab a picture’ with their eyes and then turn away, so they can continue communicating. They may turn their head toward you briefly and nod ‘yes’ or shake ‘no’, then immediately turn away, so they can attend to what you are doing together.

Depending on how autistic someone is, they may be able to stop stimming, or turn their body/eyes/head for a short time only. Then they may need to be asked to do again, every time you need to check their response. If there is another typical person, one of you may want to be in front and across, so you can see the autistic person from a distance. It can be surprising in this observational dynamic to see just how much the autistic person is communicating both bodily and orally, as well as by pointing on a letter board. If there is a chance to set up a camera and tape YOU and the autistic person can watch it later, which can also be very informative as well as interesting.

MEMORY UNIT BREAKTHROUGH:
HOW TO HAVE INTERESTING, MEANINGFUL DISCUSSIONS USING ONLY ONE WORD RESPONSES:

A Memory Unit is a discussion about the recent past and plans for the near future, lead by a typical adult with at least one autistic child. They can take place at any time, but typically occur at the beginning or end of the day. The purpose of a Memory Unit is to help a person with autism to have better cohesion and integration with short term memory, and to foster a sense of continuity with community and family relationships.

An autistic person like Dov can lead a very fragmented life, where specific recounting and planning take place in a ‘closed loop’ with each individual he spends time with. The only communication that takes place, is based on the typical individual person’s knowledge of what has been happening with Dov. If the typical person has no notes or reports or conversation with another caregiver, they may or may not be able to find out what has been or will be going on with Dov.

Because of his autism, Dov often has difficulty initiating, only offering information or acknowledging events if the typical person brings it up. Even then, Dov may answer by retrieving information from a category, instead of an actual event. For example, if asked what happened that day or what he ate, he might answer “school” and “eggs” because school is a typical morning activity and eggs are part of the food group for breakfast on a weekday. In reality, he may have eaten spaghetti and skipped school to go to the dentist.

For Dov to have an ‘integrated short term memory experience’ and a more typical sense of continuity, it is therefore imperative for caregivers and other typical people to have good communication with each other through meetings, notes, and so
on, so that when each of them is alone with Dov, they can bring up, know, and understand the context of his day, and communicate with him about it. Further, this allows a typical person to have more confidence when talking with Dov, because YOU, too, have parameters for the reality that surrounds him, and can therefore have a better, more informed discussion.

By being able to accurately review, recount, discuss, and plan with Dov, HE gets acknowledgement and reinforcement about recent, current, and upcoming events and connections between himself and all of the different people who interact with him.

A Memory Unit is a great way to do this, whether it is done informally, or with advance planning. At the very least, however, there must be a system in place, whereby the person with Dov has information about what has been and what will be happening with him.

When Dov was at the Extreme Sports Camp in Aspen, we had an occasion on the second day, where I drove him and his camp buddy Shannon Connors to meet up with the rest of the group. It took about an hour to get to our destination, during which time, I introduced Shannon to the Memory Unit concept with a wonderful result.

Shannon sat in the back on Dov’s right side, with a spell board. Dov was in the middle. As the driver, I could see them in the rear-view mirror, but mostly, I had to pay attention to the road. I could not physically touch or continuously look at either of them, but rather, had to rely on talking and listening only, with verbal direction, coaching and prompting.

In our memory unit we talked in great detail all about the previous day. Shannon did a lot of reporting, responding to my questions. Dov did a lot of listening, as did I. Intermittently, I would ask questions of Dov, to draw him into the conversation, which he would have to answer with Shannon on the spell board. Because Shannon had had so little time with Dov (and I guessed that she might feel nervous, as I had in the beginning, especially when someone else was coaching me), I would ask single digit/pointing to one number/letter for the answer, and then verbally coach if they were getting stuck.

For example, I might ask Dov his opinion: “Shannon was just saying how she thought yesterday went overall, using a number. What number would you give yesterday? Use one through four, with one being the best and four, the worst.” If Dov did not respond, I would say to Shannon things like: “Raise and drop his hand. --Tell him to check the board with his eyes.” And so on.

As we conversed, we turned to numbers because we going to a pool that was a half-mile long. I began with checking with Dov if he knew how long the pool was. He answered (with Shannon holding the spell board) by pointing to ‘n’ for no. I told him its length and then asked if he still remembered how to convert fractions to decimals. Dov pointed to ‘y’ for yes. I asked, could he give Shannon the answer, yes or no? He pointed to ‘y’ (yes). I instructed Shannon to put her hand over Dov’s to go to the decimal point together, then to let go and have Dov go to the number by himself. On his own, Dov went to the number ‘5’, which was correct; half of a mile equals .5.

Next, I asked if Dov remembered how much money I had given to Shannon for the bowling alley later in the day –yes or no? Dov pointed to ‘y’ for yes. Instead of pointing to the number, could he SPELL the number instead –yes or no? Dov answered ‘y’ (yes). From the front seat I said, “Go ahead, spell your answer.” I gave some more verbal prompts like ‘keep going’ and, ‘use your eyes’ and, ‘check the board’ and, ‘raise your right hand’ as needed, but mostly Shannon did the verbal prompts. Dov spelled a three-letter word with her: “T-E-N” which was correct. I had given Shannon $10.00 for them to spend.

Interestingly, not only did Dov give the right answer to an open question, but by
spelling it out there was no doubt as to the intention of his communication, especially considering that to WRITE ‘10’ meant pointing three times, vs. two times to indicate the ‘1’ and the ‘0’.

Part of what helped to make this interaction a success, was that I was supportive and coaching and breaking down questions, so that we did not get to a question Dov could not answer. I did not start by saying “Spell out the number for how much money I gave to Shannon.” I started with the question –did Dov remember how much money I gave –yes or no? Later I asked if he would spell the number, yes or no? If he had answered ‘no’ to either question, I would have modified how I continued to proceed. I might have switched to ask about another subject, and whether or not Dov remembered what we had discussed about THAT. If he had not wanted to spell out the number I might have asked if he would be willing to point to the number at the top of the spell board instead, yes or no?

However our discussion had continued, the point is, that there were three of us there, with me coaching, but with my back to Dov and Shannon, guiding verbally for the most part, but not looking or touching. By the time we arrived at the pool, Shannon had gained new confidence with branching out with communication with Dov. She had been through a guided discussion with success with interacting with Dov, getting accurate responses from him, and being able to practice all the skills she had had crammed into a few brief sessions.

Partly in jest, and also because it was true I confessed I was pleased and jealous; impressed and proud of Shannon’s rapid progress. It had taken her less than two days to go to a level of communication with Dov that had taken me six months.

The way we did this with Shannon... MEMORY UNIT in car & the fact that she didn’t have a lot of other options...