



ng potential of persons with autism with the lens of multiple intelligences

**Understanding the potential
of persons with autism
with the lens of Multiple Intelligences**

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People realize their potential when ALL areas of development are considered and enabled holistically. The sense of self, physical development; relationships, understanding and communication are interconnected and interrelated. They weave together in myriad ways to form unique personalities.

It is a matter of great concern that persons with autism are kept apart and their development considered differently. They have an uneven developmental profile, lagging dramatically in some areas of development while doing well in others. When the focus and attention remains on the area of development where there is a lag or delay and to “normalize” them, abilities remain idle or unharnessed and fade away. The overall potential remains unrecognized. Self esteem and subtler areas of development especially emotional well-being are adversely affected.

Persons with autism have the same rights as others. India has ratified the United Nations Convention for the Rights of Persons with Disabilities in October 2007, “Recognising that disability is an evolving concept and that disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others”. (Preamble =e-UNCRPD)

The Paradigm Shift to a “Non Neuro- Typical” and UNCRPD perspective.

A person with autism is more than a combination of socially unacceptable behaviors. Neuro developmental research and writings by persons with autism tell us that the outward behaviors could be ways of communication, due to lack of social insight, a younger social development or simply the body trying in the best way it can to cope with sensory integrative

dysfunction that arises due to the insult to the developing brain.(In sensory integrative dysfunction sensory input is not integrated or organized appropriately in the brain .This may produce varying degrees of difficulties in development, information processing, and behavior).

The point of concern is... do we empathize? For despite the obvious social communication disorder in persons with autism often only social interaction and spoken communication are used to understand the person and his potential. These are the main areas where interventions are focused while hidden abilities may languish away.

We need to do a soul search .Are we truly reaching out and enabling the person with autism or are we cosmetically treating him so he is fitted into a world that is yet to accept and understand? Are we not in the process wasting untapped potential, which our existing assessments and interventions may not be equipped to measure and handle? Are we not in doing so, inadvertently harming the very child or adult we seek to enable? Do we not need a bypass?

Let's think about it

What would happen if the person with visual impairment had to access the world and realize his potential only with sight, the person with hearing impairment only with hearing and the person with cerebral palsy only by walking and running

A person with visual impairment learns Braille and mobility training. He accesses the world in a way best suited to him, bypassing his impairment through his other abilities.

The person with hearing impairment learns skills in total communication and augments her limited hearing. She realizes her potential bypassing her impairment through other routes where there are strengths.

A person with cerebral palsy with a motor disorder uses a wheel chair or other aids to bypass his motor disorder and focus is on a holistic programme.

“Multiple predisposing factors interact in complex ways with normal development stages and gradients” (Belmonte 2004) in persons with autism which makes them process information differently. This difference must be respected It implies that they be understood from the inside-out from their perspective, holistically, their hidden abilities identified and enabled rather than be “normalized” into passive robotic behavior. As importantly we need to identify and adapt environmental and attitudinal barriers that hinder their potential.

The Paper

*Essays to link the outward behaviors and characteristics of ASD with underlying cause both neuro developmental and biochemical.

* details difficulties and differences in sensory and information processing in people with ASD.

* details how “non neuro typical processing” affects areas of development singly and holistically to get a 3D view of autism.

*More importantly looks at how different ways of information processing are simultaneously the difficulties, potential and intelligences of persons with autism using the lens of multiple intelligences .It elaborates how multiple intelligences can help bring about a paradigm shift in viewing and enabling the potential of people with autism.

The impact of the neurobiological disorder

Research in autism points to a disorder of the cortex, which is largely responsible for ‘neuro-typical processing’ –i.e. higher brain functions, including sensation, thought, , memory, reasoning and voluntary muscle movement . The disorder affects sensory and information processing especially where integration of information is involved and affects typical social behaviors and communication. However there may be potential in niche areas other than social communication.

Research conducted by Dr. Margaret Bauman (Dept. of Neurology Harvard Medical School) and Dr. Thomas Kemper (Depts. of Neurology, Anatomy and Pathology, Boston Medical School) has reported that neurons in the amygdala and hippocampus have been found to be smaller than in normal persons and more densely packed.

The amygdala controls our aggression and emotions and is responsive to fear related stimuli and sensory stimuli of sound sights and smells .People with autism are known to have difficulties in “neuro –typical” sensory processing.

The hippocampus is responsible for learning and memory. Damage to the hippocampus can lead to an inability to store new information .Persons with autism write of difficulties with their short term memories.

Research has also shown damage to the cerebellum in some people with autism. The cerebellum is responsible for linkages between parts of the brain, forming of associations and voluntary movement. Persons with autism have written of difficulties in sequencing thoughts and actions, forming a whole picture of themselves and the world around them. Their learning is typically fragmented and they have disorders in voluntary motor movements. The experiments

on the limbic system have been performed on animals, however the correspondence between behaviors seen in autism and what is known of the limbic system is “compelling” (Stephen Edelson)

Scientists have also found that “autistic brains” are larger at a certain point in post natal development. “Minicolumns” in the brain may be formed differently and be more numerous in autistic brains. Excessive testosterone has been linked to autism. (excerpts Lisa Jo Rudy writing on “Autism and the Brain”) Biochemical imbalances that create neurological/neurotransmitter imbalances have also been cited as causes. One of the most prolific and best known researchers in the field of autism and the brain says “The different theories are not all so different .What all of these brain findings have in common, is that they point to autism as a disorder of the cortex” (Nancy Minshew). The disorder makes for a different type of wiring and “non neuro-typical” processing (phrase coined by persons with autism).

The damage to the cortex in the developmental period affects one or more of the sensory systems in varying permutations and combinations.

It results in the inability of the neurological system to process information that comes in simultaneously through the various sensory systems. Sensory information remains fragmented and affects functions and behavior that require a high level of integrating and synthesizing of information in the brain. As social interaction and problem solving require highest degree of integration of information it is most affected.

However the brain is enormously complex and has amazing potential. Even while persons with autism could be socially/emotionally like younger children, they may have specialist abilities and high intelligences in other areas of development which is often hidden, unrecognized... not channelized.

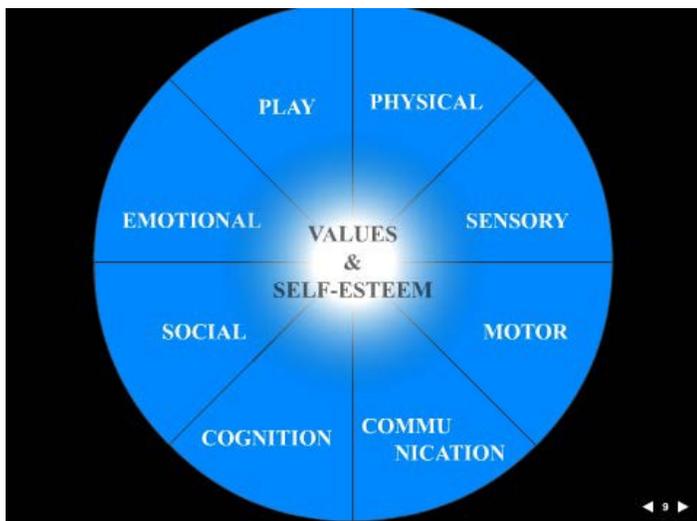


Fig 1

Viewing the profile holistically As the disorder to the brain impacts function in different areas of development differently , the combination must be considered together to understand a person with autism **In the physical realm** of health the person may have hormonal or biochemical imbalances, Candida albicans, hypoglycemia, diet intolerances, allergies, sleep disturbances eating disorders, seizures. These need to be attended to on a priority basis as they may be responsible for creating difficulties in other areas of development.

In **the sensory areas**, people with autism write of their difficulties in sensory processing. of how they experience themselves and the world differently, of how this in turn affects the way they integrate information, learn and remember. When information from the various senses comes in together too soon it remains fragmented, and prevents them from getting a total picture of their own bodies, people and things around them. This incomplete understanding makes him

react to them differently. –e.g. Instead of being seen as a whole, an object maybe be seen merely as a colour or shape, A person may be perceived and remembered as a voice ,a smell ,or a texture .They may have tunnel or peripheral vision or scotopic sensitivity

They may be hyper or hypo sensitive to any one or more of the senses - sound, light, smell, taste touch (temperature, pressure, pain) movement and/or body position to various extents and exhibit it by their behaviors. Often the environment adversely affects their sensitivity and creates an overload, which makes them switch off the environment. It also prevents them from contacting the world the way we do and in turn affects their social and emotional development. .A few examples: suddenly closing eyes- (hypersensitive to a particular light e.g. – fluorescent)

- closing ears, screaming (hypersensitive to a particular sound)
- smelling things inappropriately (hypo-sensitive to smell)
- tasting things inappropriately (hypo-sensitivity to taste)
- recoiling when touched, refusing to cut hair, or nails

(hypersensitive to touch)

- They may rock, twirl, flap hands, run, squeeze into chairs too small for them when seeking vestibular or proprioceptive sensations, Vestibular sensations give them the sense of balance and proprioception provides them with a subconscious awareness of body position. If the person is hypo sensitive he craves the sensation, if he is hypersensitive he recoils from the sensation. Alas sometimes these are seen only as faulty behaviors and the person is reprimanded or “managed” without the underlying causes. ensuing pain or distress being attended to.

Difficulties in sensory and information processing affect subsequent stages (note: no two persons are alike. There would be individual differences in stage of difficulty and severity)

1 sensory input	vision, hearing, smell, taste, touch, vestibular, proprioception	*sensations maybe received in a disordered painful manner
2 attention	*filtering out unwanted sensations* paying attention to relevant sensory stimuli	may have difficulty filtering out unwanted sensations which are overpowering
3 perception	-sensations made meaning of and integrated (voice, physique to make a person)	sensations may be perceived in a fragmented. disintegrative manner
4 memory	short term	may be stored in the same fragmented way
5 memory	long term	memory of unwanted sensations may cause in turn an emotional overflow of fear and anxiety
6 meta cognition	forming concepts ,decision making, prioritizing, sequencing, synthesizing information	affects decision making
7 praxis	motor planning	may have difficulties planning voluntary movement
7 output	action, speech, writing, movement, reflection, creativity	odd movement, action

Difficulties of information processing at different stages affect listening comprehension and spoken communication

sensory input	may have hyper or hyposensitivity affects further processing
attention	may have difficulty filtering sensations or sustaining attention which affects further stages
processing	*may have difficulty: making meaning of spoken language, sorting sounds, tones, pitch background noise, understanding that speech represents objects, events emotions etc: spoken language may seem like hurtful noise; or someone speaking in a foreign language
short term memory	when not understood there would be difficulty in storing language
long term memory	vocabulary may be stored preconsiously by passing conscious understanding. Huge bank of knowledge may be present unknown to person
retrieval and meta cognition	may understand everything spoken perfectly, know what to reply but have difficulty in sequencing answer
motor planning	may have oro motor apraxia which makes it difficult for him to plan a voluntary movement in this case speech, or difficulty in movement which makes child freeze mid way in action
motor output-action	difficulty with the earlier stage of motor planning (oro motor apraxia)a person could be non verbal and yet have much to say which he could convey through Augmentative and Alternative Communication or written expression.*important to realize that not speaking does not mean nothing to say .Often inability to communicate creates aberrant behaviors.

Profile 1

Ramki is 6 years old with autism He shuts his ears to voices which are high pitched .He can understand Tamil which is his mother tongue and has learnt English on his own. His parents are surprised as everyone around him speaks only Tamil! He is non verbal but writes to express himself. (writes Tamil with the English script! - self taught). As his baby brother started to speak a statement he wrote to his mother said “I wish I could speak”. Typical difficulties with sensory overload and apraxia.

Profile 2

A is in her later teens Speaks telegraphically in a monotone. Is hypersensitive to sounds cannot cross the road as the traffic sounds hurt her ears. Various specific therapies and supports helped temporarily, however different sounds affected her at different ages. She has evolved her own way of calming herself by humming and singing to herself. Understands whatever is spoken to her in English or Tamil. Her best friend is B who has cerebral palsy who is socially and emotionally intelligent teaches her social skills in a matter of fact way. At eleventh standard level academically, A’s hypersensitivity to sounds has made her a keen lover and connoisseur of Carnatic music.

Social interactions in autism. Typically, in a social situation we are simultaneously aware of where we are, who we are with, what people are saying to us. We look at their faces to get the full import of their words. We simultaneously attend to and understand verbal and non verbal communication (body language, facial expressions, gestures, tones of voice,) and understand unstated meanings. We understand the difference when one person gently smilingly says “I am angry with you” versus another who frowns and shouts “I’m angry with you” and react appropriately.

Non verbal communication gives us subtle clues of how to respond in a social situation. Understanding non verbal communication is difficult for a person with autism as it involves processing and integrating various factors together. Any one of these can create an overload on the senses and lead to a shutdown of attention. They are able to focus on one aspect of a situation at a time, which are specific and don’t change.

This area of development is most affected in autism. What persons with autism find difficult to understand is the nebulous nature of social interaction. Some lack social insight and are unaware of how they should respond and why. Difficulties in social interactions can occur at various stages of sensory and information processing.

Sensory input	People's smell touch, voices together could be an overload on the senses leading to a "switching off" of attention
attention	may have difficulty attending simultaneously to *place one is in *who one is with,*what people are saying to one
perception	or may have difficulty integrating *body language,*facial expressions, *gestures, *tones of voice ,words and speech and reading the meaning between the lines
memory	stored in fragmented manner (refer points in earlier stage)
memory	memory also remains in fragments or serial order or in disordered sequence
meta cognition	typically understand a social situation simplistically , literally. do not understand ambiguous rules of social relationships.
planning action	difficulty with praxis may make them unable to plan and execute an appropriate response, i.e. smile, even if they know what to do
output	Socially immature behavior. may be reacting to a hypersensitivity/ faulty processing of the social situation / praxis / any of the above

In the motor area they may have difficulties due to vestibular and proprioceptive sensitivities, a lower muscle tone or apraxia which makes them freeze unable to follow through an action. or overshoot or undershoot a movement or action.

Emotionally and Cognitively there are great variations from person to person. They could be emotionally hypersensitive where emotions bombard an already fragile nervous system and emotions are received in an exaggerated manner. “Like feels like love, sad feels like depressed” says Donna Williams who has autism .There may be “non firings” she says as the brain shuts off due to overload and the person does not feel an emotion, or “misfiring” as when the person is happy on seeing a loved one, and the body reacts with increased heart rate and deep breathing and the brain misreads signals – i.e. increased heart rate and deep breathing is equated to terror and the body turns away from person says Donna.

Looking at the” behaviors of people” with autism against the light of core deficits and developmental delay and disorder, it is obvious that what is manifest as unacceptable behavior in society is either because society itself is impinging on the person’s space creating great disturbances , which he cannot express or because of fragmented perception and poor spoken communication. The more we force the child or adult into acceptable behavior without being aware of the difficulty the disorder causes and developmental age socially, emotionally, and in communication, the more he will wall himself in and the more frustrated the trainer or caregiver would be. In the bargain the person’s potential may be scarcely given a thought or it’s due.

What then is the answer? How do we enable the person despite these difficulties?

Opening new doors to potential

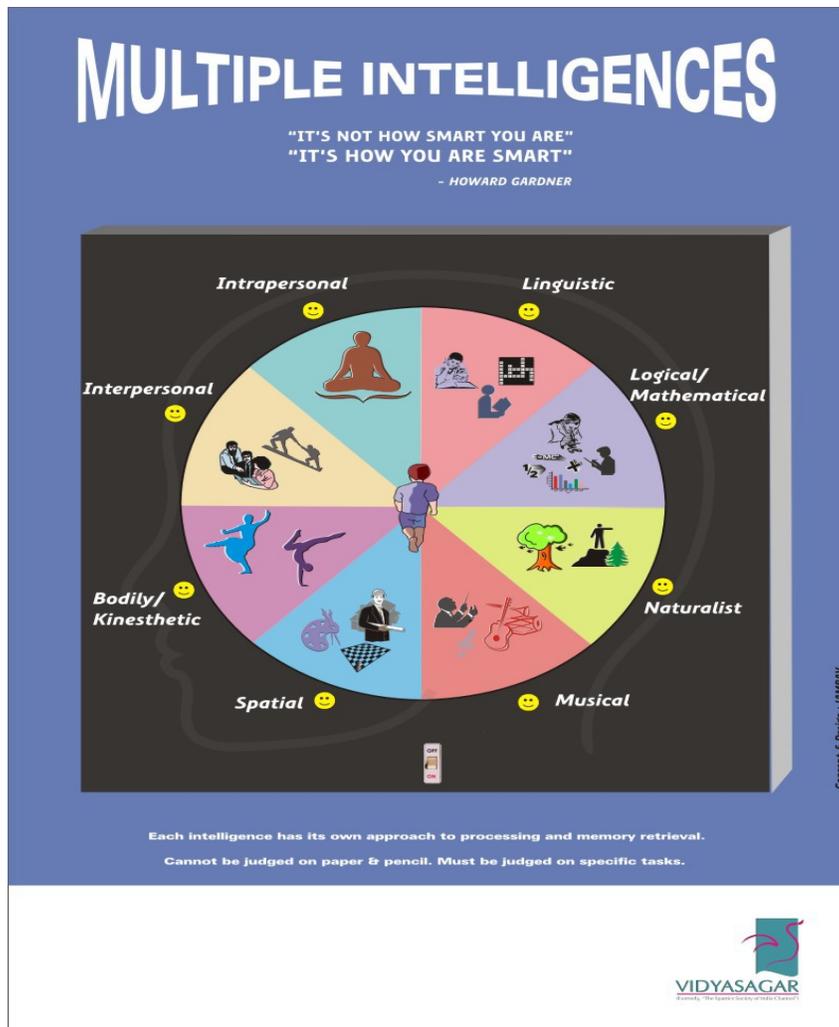
Imagine a house with eight doors, and two doors closed, (doors of social skills and spoken communication). The more you push them the tighter they close. How does one get in? Simple anyone would say -try one of the other six –AND that could well be the answer. enter through the child's strength or intelligence.

Enter the theory of multiple intelligences

The theory states, "It's not HOW SMART you are-It's how YOU are smart"

Postulated by Howard Gardner in the 1980s the theory is making waves in the fields of education and employment today. It makes us rethink at the way we understand potential and intelligence. It may well be the answer to understanding the potential of people with autism, for, it brings in a perspective that makes the much needed "aha!" difference.

The theory states that intelligence is not a single entity of which some people have more and some people have less, which can be evaluated in a simple paper and pencil test, rather that there are different forms of discrete intelligences, each one independent of the other, which must be assessed on the job. In everyday life they work in harmony and their independence is not noticed but if we don the right observational lenses we can see them.



The multiple intelligences

- *linguistic intelligence –the intelligence of the poets and writers
- *logical mathematical intelligence-the intelligence of the scientists
- *musical intelligence –the intelligence of the composers
- *bodily kinesthetic intelligence-the intelligence of the gymnasts, and dancers
- *spatial intelligence-the intelligence of the artists, architects
- *interpersonal intelligence – the intelligence of the social activists and leaders
- *intrapersonal intelligence –the intelligence of the philosophers
- *naturalist intelligence-the intelligence of the conservationists and anthropologists

The theory was postulated after over a decade of research to answer a fundamental question “What is human potential?”

It is based on neurobiological studies of how the nervous system is organized, how it develops, how it breaks down, studies of individuals with exceptional talent and on those with brain damage (including autism.) along with studies anthropological studies of various cultures where different abilities are celebrated.

The criteria for an intelligence being

It’s possible isolation despite brain damage*

Existence of prodigies

Each intelligence having its core set of operations

it’s evolutionary history

its own encoding symbol

and support from psychometric findings and experimental psychological tests

Gardner says he saw in people with autism “human intelligence in relative even splendid isolation”. This isolated intelligence may be the key to open the door to the person’s potential. For while non autistics have a combination of these intelligences that form a unique profile, in autism this profile is more specialist in one intelligence with limited interpersonal intelligence.

Abilities and core set of competences for each intelligence

The intelligence	The abilities seen	Core set of competencies
Linguistic	can effectively employ words either in speaking or in writing interested in reading, writing	sensitive to words ,grammar sound and rhythm, can enthuse others, explain, convey information effectively through use of language spoken /written
Musical	can discriminate , judge music forms, compose music, play a musical instrument ,sing	sensitive to pitch, rhythm and timbre in music
Logical mathematical	can effectively use numbers .reason logically and soundly	can sort and order different categories. perceive statements , propositions, and complex processes, make related abstractions from them
Spatial	can visualize effectively , good with directions. can discriminate colour ,lines ,shapes forms and their relationships	Can recognize an object ,picture , line or graphic from different angles Create image and graphic likeness of different views of the same
Bodily kinesthetic	Good coordination, balance, dexterity, grace, flexibility and speed in body movements and actions.	control of body movement , ability to handle objects skillfully

<p>Interpersonal* also known as Personal or Emotional Intelligence) (intelligence most affected in persons with autism)</p>	<p>Can quickly grasp and evaluate others' moods, intentions, feelings and intentions Sensitive to others' facial expression, tone of voice, gestures and body language</p>	<p>Empathy and social skills, can discriminate between many personal cues and prioritize intensity. respond effectively to these cues ,and inspire people to positive actions, getting them to tide over negative emotions</p>
<p>Intrapersonal also known as Personal or Emotional Intelligence</p>	<p>An honest, accurate picture of their strengths and weaknesses) Capacity to understand themselves, and then act adaptively An awareness of their inner moods and desires. Healthy self esteem</p>	<p>Self control and discipline ,zeal ,self motivation .persistence against odds</p>
<p>Naturalist</p>	<p>Keen interest and understanding of plants animals and nature Ability to use the environment effectively</p>	<p>Skill with plants and animals, at home with nature. Can insightfully understand and creatively work with plants and animals</p>

learning styles of persons with autism seen through the lens of multiple intelligences.

Each of these intelligences according to the theory has its own way of understanding and processing information, remembering and expressing itself. That is the learning style of a person likewise in autism. That is why most people find they can easily learn, remember, perform and create in one field of endeavor, while finding it very difficult to do so in another field of endeavor (as in social relationships and communication in autism).

Persons with autism when viewed through the lens of multiple intelligences (ref table) have a difficulty primarily with interpersonal intelligence. Simultaneously what is called a “savant skill” when viewed through this lens is an unusually high intelligences in any one or more of other seven which make for artists, poets, computer specialists, naturalists, We need to use these alternate routes .the other seven intelligences and bypass the social communication mode!!

Imagine a house with eight doors of different sizes and shapes, but only two of them used. Much potential may be locked within!

Play in autism seen through the lens of multiple intelligences

Lack of pretend play is cited as one of the main features of autism. Seen through the lens of MI, pretend play is just one kind of play, typically done by children with good interpersonal intelligence. Lack of pretend play does not equal lack of play. The play of children with autism is different and fascinating. If only we would watch non judgmentally! It gives them joy and their play is creative in that realm of intelligence

Table: teaching strategies, play and the multiple intelligences

the multiple intelligences	Different teaching strategies and aids for different intelligences	type of play the child would indulge in
linguistic	words, matter of fact tone, computer	word games. writing, crosswords scrabble
logical mathematical	routines ,logical sequential step by step teaching, clear simple instructions socialstories.ABA,TEACCH methods, computers	number puzzles, Rubik cube, dominoes, Sudoku, sorting ordering toys ,computer games
musical	music in the background, varying tones ,allowing learner to hum while working or when emotionally distressed	listening to music, singing playing musical instruments
bodily kinesthetic	allowing learner movement and activity while learning	gymnastics, video games sports, skating swimming, craft, pottery
spatial	images, pictures, diagrams ,visuals graphics, PECS (picture exchange communication system)Visual communication	chess ,painting, jigsaw puzzles drawing, computer graphics
naturalist	environs that are calming ,quiet ,orderly comfortable room temperatures ,allowing person to learn through discovery	playing with animals , horticulture , gardening
interpersonal	team work, participatory learning (absent)	pretend play –absent!
intrapersonal	reflection, insightful learning	reading , writing

Intelligences, their development and the role of the community

Specific intelligences are the inborn potential of the person concerned, they need to be developed and here the role of the parents and the local culture comes in.

1: *the person*:*people automatically veer towards fields where they have high intelligences

2: *the local culture**people become competent when the intelligence is given opportunities to develop in the local culture.

***** when the local culture does not provide opportunities for an intelligence to develop it lies dormant in the person

3: (*society*) when society recognizes the person's competence with awards and recognition, the person's intelligence further develops to the next level of mastery

We need to observe the person with autism closely and assess them on the job to identify where their intelligences lie and provide opportunities for their development, for when they are enabled they can be truly amazing! Their non typical processing could also be their strength and their intelligence.

People with autism may have bodily- kinesthetic, spatial, musical, logical mathematical linguistic, naturalist or intra personal intelligences. These must be looked at as more than "savant skills" and understanding there could be a specialist in there rather than a generalist.



Fig 2

There is a need to observe the person holistically and identify the profile of specific intelligences (activities that come easily and well, which the person enjoys are strong indicators.) and provide opportunities for the person to develop these intelligences. Enabling the person develop his specific intelligences will in turn increase self esteem (feeling loved and capable) which permeates a personality, enabling positive action. A person's learning style will be in keeping with her intelligences. Through teaching strategies best suited to the intelligence we can and must enable, other intelligences develop too,

Assessment and Management using Multiple Intelligences. When the lens of multiple intelligences is used for assessing persons with autism they provide the lead and guide us to their intelligences. We observe what comes easily and well to them!

It allows assessors to go with the flow, rather than force the person with autism to perform on a formal testing which is typically counter productive given their difficulties with social compliance.

Assessment is non threatening for the person as it is based on assessment on the job, rather than direct social interaction, which can be an overload to the senses, create stress, anxiety and possible non performance! The person's intelligences guides us to the most appropriate strategies for learning and management (refer table)

The observation and assessment of potential could also guide us to a possible career option. Most importantly it allows the person realize his or her potential despite a skewed developmental profile and poor social communication skills.

Multiple intelligences may well be the answer to understanding, empathizing enabling and working with a person with autism. It calls from people working with the population a high inter and intrapersonal intelligence, to effectively bring out the child or person into an understanding world.

A holistic understanding then takes into consideration autism's impact on the senses and the body, on the person's information processing, on communication and social development to identify where exactly the person has difficulties and the specific intelligence/s profile and follows up with a holistic management plan.

Multiple Intelligences to enhance the potential of persons with autism - is an idea as Howard Gardner says "whose time has come"

Case study 1

A is nineteen, studying in the eleventh standard- a beautiful intelligent girl with autism and the only child of caring middle class Tamil speaking parents. Father works in a bank, mother is a homemaker, who did her post graduate diploma in special education to better understand and work with her child .The ages between ten and thirteen were critical times for A

The issues

- *difficulty in coping with hormonal changes with the onset of puberty
- *inability to comprehend bodily changes
- *sudden increase in sensory issues, especially hyper sensitivity to sound and hypo sensitivity to vestibular sensation
- *would not leave her house or room as she could not handle sounds
- *family in turn unable to cope isolated themselves from social contact

The behaviors A exhibited

increased temper tantrums screaming,
masturbating in public refusing to go out
of her room and house

Lacunae in A's knowledge leading to her behaviors

no coping strategies for her recent severe sound sensitivity

no awareness no control over socially inappropriate masturbation in public

no awareness of private space for certain activities

unable to communicate her fears and questions regarding her bodily changes and needs

(A had a good linguistic, logical mathematical and musical intelligence)

Program

For hypersensitivity to sound *headphones did not help much a try with Auditory Integration Therapy gave temporary relief .

*A very helpful suggestion came her way from her friend another very intelligent youngster with autism .He said “oppose her sound sensitivity with hopeful music.”

*So her mother would sing in a high pitched tone constantly, the tone calmed A, blocked other disturbing sounds, and helped her focus better on other things.

*A gradually evolved her own humming and singing in a particular pitch and timbre by which she calmed herself

She was also given a library of CD's, which she operates on her own adjusting pitch and volume to suit her, she now listens much better

*An alternative communication mode was designed in the form of a spell chart

Her mother said A needed it “not for just expressing needs also her feelings and to enable her initiate conversation”

The spell chart was changed to a computerwhich she handles independently, sometimes when fatigued she points to an adjacent letter on the keyboard

* Strategies for understanding and handling of emotions were introduced; A learned to identify them and learnt coping mechanisms for PMS. She was taught how to handle them acceptably through social stories.

*Being Logical and Mathematically intelligent information regarding her body was also explained through matter of fact scientific information and knowledge. She was taught the use of the calendar to anticipate her periods and in turn the emotions that her PMS would bring.

*Regarding masturbation earlier A was sleeping with the parents she was encouraged to sleep in her own room in order that she had her own private space and given clear guidelines of dos and don'ts regarding acceptable behaviors .Masturbation reduced drastically. Regarding her screaming, through social stories she understood that screaming for what she wanted was inappropriate behavior. however even today she says it does not matter to her what people say or think!

Case study 2

AD - a 12 years old boy with autistic features has a younger sibling, stays in a joint family with grandparents, affectionate to all. On a CFGF diet ready for grade four he picks up academics effortlessly, sensory difficulties hold him back.

Issues suddenly arose as AD reached the pre puberty stage. Issues presented were very akin to A's; some of the strategies used there were transferred with good effect

Issues Increase in hypersensitivity to sound, caused great distress. Reacted aggressively

Masturbation.

Behaviors exhibited Temper tantrums, aggression, biting people when unable to handle sensations, everyone including therapist, were wary of his sudden violent aggressive behaviors

Strategies used .Sensory integration therapy continued. Communication chart to express himself was introduced Structures and routines were introduced

AD had bodily kinesthetic intelligence, so choice of physical equipment to calm himself was introduced including climbing and the trampoline.

AD also had good linguistic intelligence so information regarding the hormonal changes in his body and his emotions were read out to him, as also understanding his emotions

He responded better when material was read out than when spoken to

Breaks during academic sessions were introduced where he chose activity (typically a physical one) to calm himself

His aggression came down, when there was physical distress he calmed himself with activity of his choice during their breaks earlier specified.

In both cases the changes that adolescence brought came as a painful surprise. They did not understand and did not have strategies to cope with.

Logically explaining their physical and emotional changes and giving them communication options as well as their own style of intelligence to deal with it has helped

The multipronged strategy of looking at both strengths and difficulties was used.

This simultaneous attention to bodily states, sensory integration, means of communication, enabling them understand and resolve their own difficulties through their specific intelligences, while academics was learnt at their accelerated pace, making them behave

in as socially acceptable way as their own social development age would allow was the strategy that helped. In both cases parents were part of the team.

References:

* Convention on the Rights of Persons with Disabilities

<http://www.un.org/disabilities/convention/conventionfull.shtml>

(Prepared by the UN Web Services Section, Department of Public Information © United Nations 2006)

*M.K.Belamonte (2004), Autism as a Disorder of Neural Information Processing.

<http://www.autismspeaks.org>

***Rudy, Autism and the Brain About.com Guide Updated: August 21, 2007**

<http://autism.about.com/od/causesofautism/a/AutismBrain.htm>

*Stephen Edelson- Autism and the Limbic System

<http://www.autism.com/medical/limbic.htm>

*Donna Williams (1993) Nobody Nowhere, (Corgi Edition) Trans World Publishers.

*Donna Williams (1996) Autism An Inside- Out Approach. Jessica Kingsley Publishers.

*Howard Gardner (1993) Frames of Mind .The Theory of Multiple Intelligences. (Second edition) Fontana Press. Harper Collins Publishers.

Figures 1&2 courtesy Usha Ramakrishnan

understanding potential of persons with autism with the lens of multiple intelligences

Poster on Multiple Intelligences courtesy Vidya Sagar Chennai