Prayas-DAKSH

An outcome of Project "Prayas: Reinforcing Potential"

Daksh is an ADD-ON Programme

Daksh means SKILLED, Daksh has been developed as an evidence based programme through project Prayas with the help of around 60 individuals with Autism Spectrum Disorders and their parents in a span of two years.
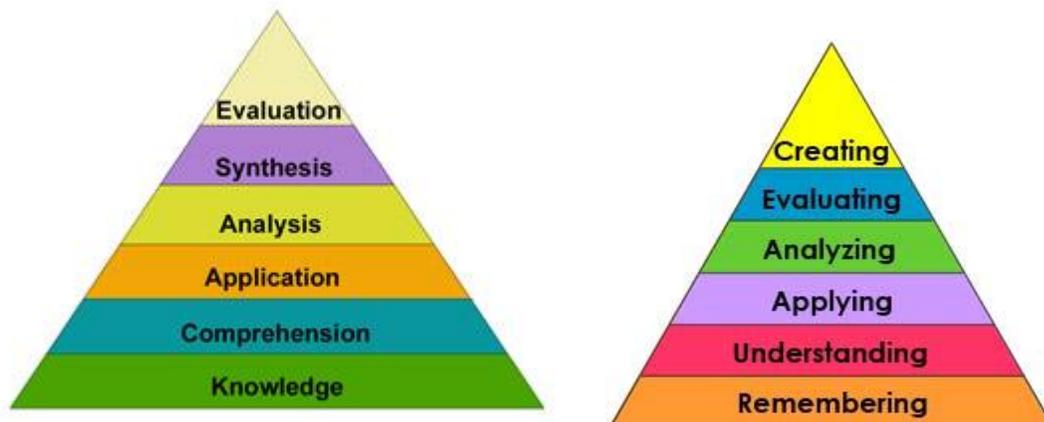
Daksh addresses the early need of intervention through technology where an institute, a professional can use this program in addition to the existing programs, such as any desk top activity which caters to the 3Rs, speech and occupational therapy etc.
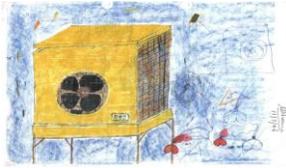
Daksh has the "Process Curriculum"

A "Process Curriculum" addresses the continuity of the given program. In case of Daksh, as we all know that the degree of severity varies irrespective on the chronological age of the individual; we need to continue to work on the same content till an individual achieves independence, speed and accuracy.
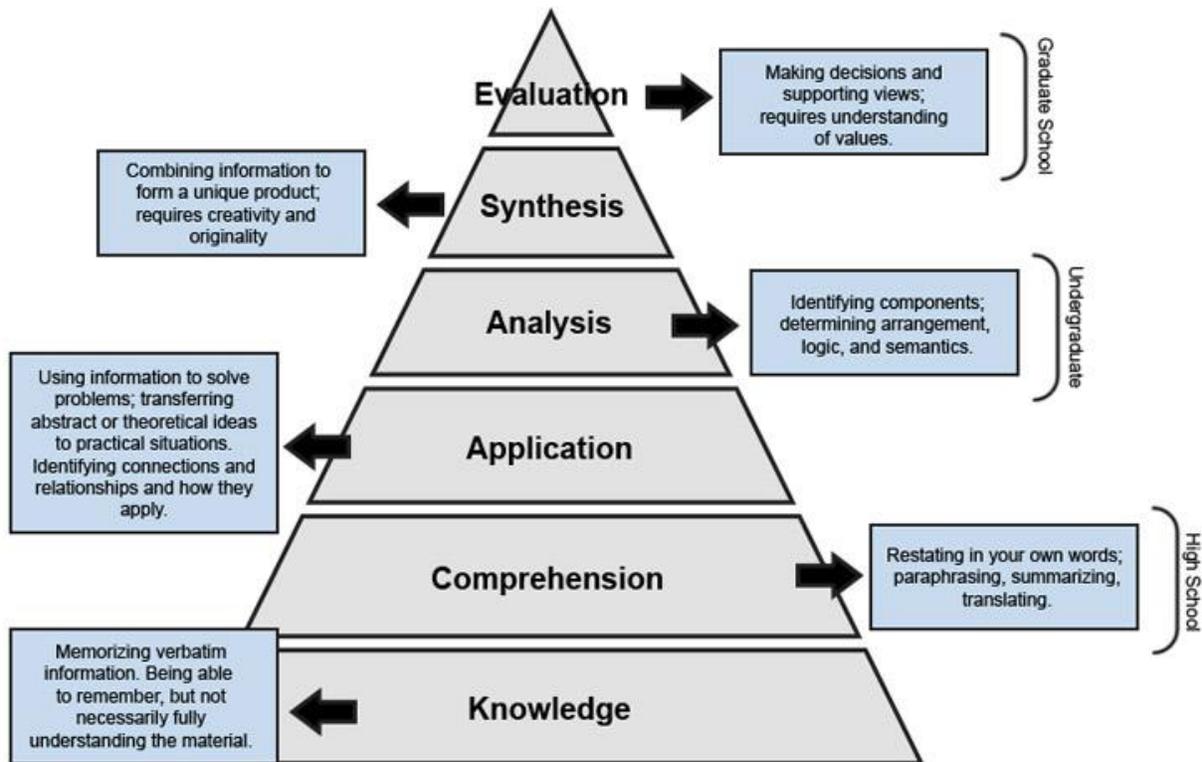
This achievement will be established at a different time for each individual. One individual may do it in one year or another may take six months more to do so.
.
The Principle behind Daksh: Middle path of "Bloom's Taxonomy"; The Learning Ladder

Bloom's Taxonomy

Evaluation → Making decisions and supporting views; requires understanding of values. — Graduate School

Synthesis ← Combining information to form a unique product; requires creativity and originality

Analysis → Identifying components; determining arrangement, logic, and semantics. — Undergraduate

Application ← Using information to solve problems; transferring abstract or theoretical ideas to practical situations. Identifying connections and relationships and how they apply.

Comprehension → Restating in your own words; paraphrasing, summarizing, translating. — High School

Knowledge ← Memorizing verbatim information. Being able to remember, but not necessarily fully understanding the material.
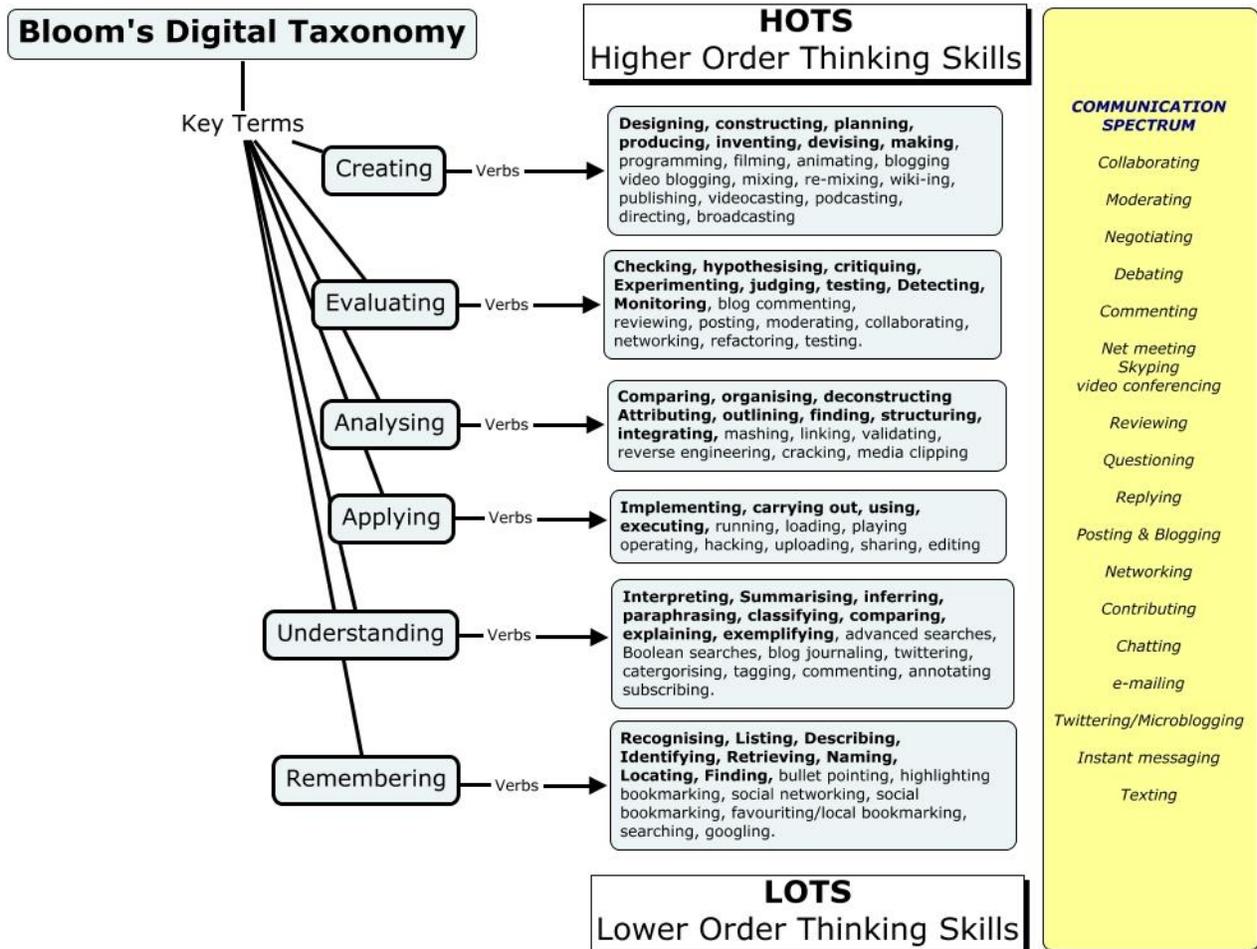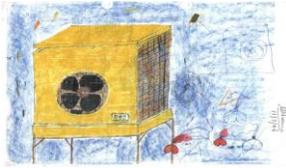
The link pasted here will take you to the details of what Bloom's Taxonomy is all about.

http://en.wikipedia.org/wiki/Bloom's_Taxonomy

It refers to a classification of the different objectives that educators set for students (learning objectives). Bloom's Taxonomy divides educational objectives into three "domains": Cognitive, Affective, and Psychomotor (sometimes loosely describedas *knowing/head*, *feeling/heart* and *doing/hands* respectively).

Within the domains, learning at the higher levels is dependent on having attained prerequisite knowledge and skills at lower levels.

A goal of Bloom's Taxonomy is to motivate educators to focus on all three domains, creating a more holistic form of education

Bloom's Digital Taxonomy

HOTS
Higher Order Thinking Skills

Key Terms

COMMUNICATION SPECTRUM

Creating — Verbs →
Designing, constructing, planning, producing, inventing, devising, making, programming, filming, animating, blogging video blogging, mixing, re-mixing, wiki-ing, publishing, videocasting, podcasting, directing, broadcasting

Evaluating — Verbs →
Checking, hypothesising, critiquing, Experimenting, judging, testing, Detecting, Monitoring, blog commenting, reviewing, posting, moderating, collaborating, networking, refactoring, testing.

Analysing — Verbs →
Comparing, organising, deconstructing Attributing, outlining, finding, structuring, integrating, mashing, linking, validating, reverse engineering, cracking, media clipping

Applying — Verbs →
Implementing, carrying out, using, executing, running, loading, playing operating, hacking, uploading, sharing, editing

Understanding — Verbs →
Interpreting, Summarising, inferring, paraphrasing, classifying, comparing, explaining, exemplifying, advanced searches, Boolean searches, blog journaling, twittering, catergorising, tagging, commenting, annotating subscribing.

Remembering — Verbs →
Recognising, Listing, Describing, Identifying, Retrieving, Naming, Locating, Finding, bullet pointing, highlighting bookmarking, social networking, social bookmarking, favouriting/local bookmarking, searching, googling.

Collaborating

Moderating

Negotiating

Debating

Commenting

Net meeting
Skyping
video conferencing

Reviewing

Questioning

Replying

Posting & Blogging

Networking

Contributing

Chatting

e-mailing

Twittering/Microblogging

Instant messaging

Texting

LOTS
Lower Order Thinking Skills

- **In the case of Autism Spectrum Disorders, as it has been evident that the learning has its own pathways, therefore we need to adapt the model differently.**

- **It is also seen that these individuals learn in real life situations.**

- **They are also the visual learners**

Keeping all the above in mind and the age group we had to work with, we thought of taking the middle path of "Bloom's Taxonomy".
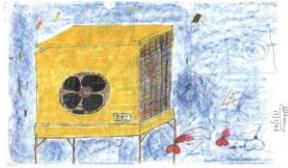
In this path, we created simple lessons along with the appropriate 2D images and worked on the computer skills.

Execution of Training: Cognition and communication

A careful observation to each lesson/worksheet will tell you that while we are trying to teach the computer related skill to the child we are simultaneously working on the learning, enhancing imagination, thought process and communication.

Customizable for every child

Each lesson developed can be very easily used by customizing for the functional level of the individual. For example, if we are working on the Natural Resources and we are talking about the SUN, looking at the picture of it for a child, who is only 5 years old, one can accept the typing of a word SUN, perhaps; "The Sun is yellow in colour" or "It gives us light and heat".

Whereas, for an individual, who is perhaps, 10 years old, one can talk about the role of the Sun in the process of photosynthesis.

Reusable worksheets

Each lesson can be downloaded in a source folder and can be reused at any time while saving it in different names.

Focus on Skill Development

As mentioned earlier, that Daksh is an add-on program, we focus on the development of computer related skills; if an individual achieves all what is needed to be, he/she can further be guided to learn the Basics of Computer and other higher end skills.

Daksh addresses specific Skills related to Autism Spectrum Disorders
- Strengthening Pattern Recognition/ scanning ability
- Learning to EXPRESS through visuals/images
- Building Creativity through designing
- Learning Life Skills through Cause and Effect/ life skills
- Learning HOWS; therefore building concepts through association.
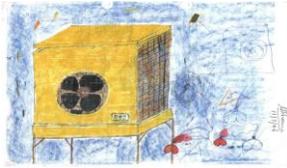
Sensory Defensiveness

It has been documented by many authorities like Special Educators, Medical Professionals, Psychologists, Psychiatrists and Parents that most of the behaviors exhibited by the individual with Autism Spectrum Disorders stem from the existence of several environmental stimuli such as high levels of Sound, sharp smells, inadequate light and seating. While executing Daksh, we made sure that none of these are in excess and we worked in smaller groups along with the parents as the comforting element.

This has been a successful model as we have hardly witnessed any unmanageable problem behaviors.

Parent Empowerment

As mentioned in the previous segment that parents were included in Daksh as a comforting component. It was also thought of as a strategy to share knowledge and empower them.

At the same time, parents could understand the strengths and deficits of their ward.

Parents have been helping us in bringing various adaptations while executing the training.

Parents have understood the avenues; the technology can offer and are ready to work with their ward. It had been a rewarding experience having parents as co-workers.

This has also addressed the issue of unavailability of trained professionals

Why technology based intervention

Autism Spectrum Disorders are very little understood in terms of its etiology, these are highly heterogeneous in nature. This situation compels a person to look at it only therapeutically. In the recent past, technology has brought in lots of hope for individuals with Autism Spectrum Disorders.

Computers, i-pads, i-phones, i-pods and some other assistive technology based devices like Alpha Smart, go-talk etc. along with some software, have made life easier for individuals with Autism Spectrum Disorders and their families.

These technology based solutions seem to be the non-threatening tools for individuals with Autism Spectrum Disorders; where we need to look at issues related to "SENSORY- DEFENSIVENESS", exhibited by them.
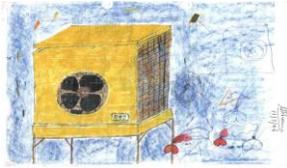
These tools, if used meaningfully, through the earlier stages of intervention, help enhance cognition, communication and thus social skills.

Through these technology based solutions, we can look at various avenues of employment, these can be related to the Internet based activities, Data- entry, Validation of Software, Development of Teaching – aids like PECS, Social stories and development of symbols through appropriate animation software.

A few tips to Professionals

Learning Preferences by an Individual with ASD

- Taking literal meaning of a word.
- Following sequences.
- Copying/ Imitation.
- Learning concepts faster if presented in a real life situation.
- Prefers predictability of a following situation.

Management of the Difficulties faced by Individuals with ASD

- Limited Interest.. begin with the central interest and then extend.
- Repetitive Talk/ work….Bring a small and gradual change.
- Difficulty in understanding Abstract Concepts… Begin with visual.
- Sudden Change…..Predict.. Adapt slowly.
- Limited Social Interaction…. Befriending with one and then more.
- Monotone in speech… Read the text with modulation.
- Echolalia in Speech… Wait after giving the instruction.
- Waiting for assurance/cues… appreciate more to boost the confidence.

The strategies one can use
- Being consistent and intense.
- Insist on finishing the task.
- Give smaller tasks…. Help the individual complete.
- Avoid task failures.
- Used real life situations to teach.
- **ELPS: Experience, Language, Picture, Symbol.**
- **MSOP: Matching, Sorting Ordering Pairing.**
- Use association Memory.
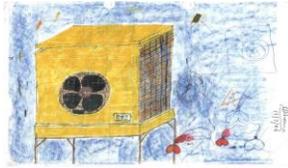
- Use of rewards: Tangible along with social reinforcers.
- Enthuse parents, empower them and work together.

Broadly, Prayas/ Daksh have been able to address the following issues:

Avenues are endless; Awareness is the key to success.

Affordability is a question; Development is the answer.

Accessibility is yet another question; Open- source is the answer.

Documented by   Jan 26, 2013

Kavita Sharma
Center Head Prayas
A Project of Autism Society of India in collaboration with Spastics Society of Karnataka, Bangalore.
Sponsored and supported by SAP Labs India Pvt Ltd. Bangalore

References: Internet, Thinking in Pictures by Dr. Temple Grandin, Own experience as a Parent Professional and experience of many parents