

# NEWSLETTER

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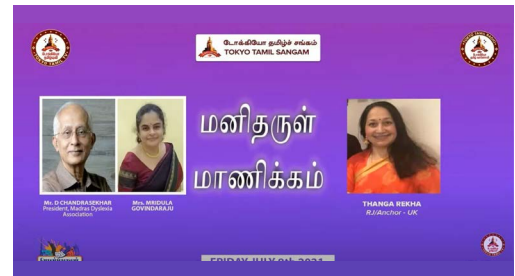
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YouTube

Manidarul Manikam - Interview with D Chandrasekar, President, Madras Dyslexia Association and Mrudula Govindaraju, Editor, MDA Newsletter



YouTube

## Editorial

Dyspraxia or Developmental Coordination Disorder (DCD) is a neurological disorder that impacts an individual's ability to plan and process motor tasks. It affects fine and gross motor skills, motor planning, and coordination. It is not related to intelligence, but can sometimes affect cognitive skills, create language problems, a degree of difficulty with thought and perception learning problems. Dyspraxia also affects the body's immune and nervous systems. People with dyspraxia are seen as being 'out of sync' with their environment.

A diagnosis of dyspraxia can be made by a clinical psychologist, an educational psychologist, a paediatrician, or an occupational therapist. Any parent who suspects their child may have Dyspraxia should see their doctor. When carrying out an assessment, details will be required regarding the child's developmental history, intellectual ability, gross and fine motor skills and family history.

Studies suggest Dyspraxia may be caused by an immaturity of neuron development in the brain, rather than any specific brain damage. If motor neurons cannot form proper connections, for whatever reason, the brain will take much longer to process data. Experts also conclude that Dyspraxia is probably hereditary wherein several genes have been implicated. Often, there are many members within a family who are similarly affected.

However, a number of risk factors that can increase a child's likelihood of developing DCD have been identified to include:

- Being born prematurely, before the 37th week of pregnancy
- Being born with a low birth weight
- Having a family history of DCD, although it is not clear exactly which genes may be involved in the condition
- The mother drinking alcohol or taking illegal drugs while pregnant

Children with Dyspraxia often require a significant degree of parental support in addition to the treatment they receive. Because of the limitations of available treatments for DCD and the fact it cannot be cured, some parents may look into alternative therapies that claim to cure or greatly improve the condition. However, there's usually no scientific evidence to support the use of alternative therapies, and they can be expensive and time consuming. There's no cure for DCD, but a number of therapies can help children to manage their problems. It is also important to bear in mind that with therapy the physical co-ordination problems associated with DCD will naturally improve over time.

Though not a common disorder, people who have publicly stated they have been diagnosed with Dyspraxia include Harry Potter star Daniel Radcliffe.

### *The Editors*

## #Dyslexic Advantage makes me...



**Nivethitha Venkatesh**  
Interior Designer | Event Designer

After my 12th in Ananya, I discovered my interest in Arts and Architecture which led me to do my Bachelors in Design (B.Des), specialising in Interior Design. My internship in Bahrain helped me gain international experience in design. Followed by my bachelor's, I freelanced as an interior designer in India and in Bahrain. Later I travelled to Canada for a Post Graduate Diploma in Event Design, after which I worked in the events industry in Canada. Currently I am pursuing my passion in home baking in Chennai, which was seeded in me through Ananya and my gratitude remains always! Along with baking I am upgrading myself with a UI/UX Design certificate course as well.



**Amirthaversheni B**  
Assistant Director, Film Editor  
and Costumer

Growing up in Chennai as a student in a mainstream school I was clueless about why I wasn't able to be like the other kids at school who could easily read, write, understand and more importantly be confident in a crowd. A junior teacher, Ms Donneta, identified my learning difficulties and explained that I may be a student with dyslexia.

I can still feel that day in my nerves. I was so scared; my throat was choking from holding back my tears. I was literally hearing my own heartbeat. My parents are my life-savers but my mom is little more special because she understood the issue right away and realised I am not a normal but a special child. Ms Donneta assured my parents that 'It's not that she can't study. It's just that she needs a different way to study'. Now I understood why I learn more when my friend teaches me at the last minute before exams than my teachers teaching me the whole year!

Ms Donneta introduced us to MDA. MDA's Ananya is the school that changed me and my life entirely. They found the true me. It is not just a school - it's a gurukulam for children like me, where they give importance not only to studies but also to the students and their self-respect. The teachers at Ananya also taught me that marks are important, but learning and understanding are most important. I am glad I was able to finish my 9th and 10th there. My teachers supported me so well that I gained confidence. I was able to understand the lessons, do my homework on time, eat well and healthy, be organised and most importantly did not feel anxiety. I was totally calm and comfortable around 80 people and more. My parents were happy and started understanding me better. I gained lifelong loyal friends. I discovered my goals. While I still keep swapping or adding my goals, I was clear that I like to create.

I finished my BA in Animation and got my first job as a digital artist. I specialised in Adobe, drifted into the film industry and debuted as editor in Kollywood for the film Richie. I worked in Naturals Training Academy (NTA) as a Centre Head, was the creative head for a government project called DDUGKY (Deen Dayal Upadhyaya Grameen Kaushalya Yojana). It is a central government, demand-driven skills training program that is placement-linked, involving several corporate companies. I also worked in the corporate sector with a regular 9 to 5 job for almost one-and-a-half years, troubleshooting several difficult tasks and meeting targets without fail.

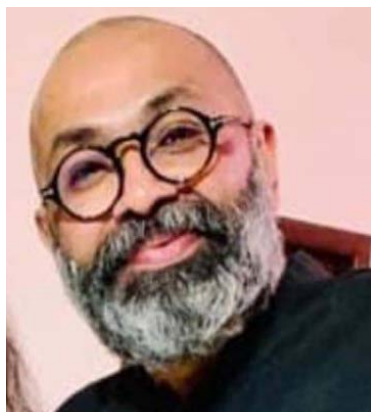
Meanwhile, I finished my diploma in film direction and fashion. Following my passion to be a creator in the entertainment field involving less theoretical work, I joined Sculptors Production, whose clients include Kalyan Jewellers India, Amruthanjan and others, as assistant director. I moved to Mumbai for six months to hone my direction skills. My corporate experience came in handy in maintaining and managing a huge film crew, a challenge I enjoy. I have completed around 11 ad-films as assistant director, 4 feature films as assistant director and 2 films each as editor and costumer. Right now I am working in a Tamil feature film as an assistant director and editor.

It is fulfilling to be able to work in the field of my choice and passion and get paid for it. If I get to meet the 10-year-old me, I would be so proud of myself for being a student with dyslexia.

In this journey, I've faced and am still facing a lot of rejections, betrayals and insults. With support and guidance of my parents I am able to handle all these challenges well. More than anyone I love myself and will never give up after coming up this far with a lot of courage, even though I was told I wouldn't make it at various stages. The courage, confidence and positivity I have today is all definitely because of my lovely teachers and friends in Ananya who were always there when I needed them.

I am not sure when I'll get to see this but my ultimate goal is to see the tagline, 'A film by Amirthaversheni and team'. It will happen soon.

# Dyspraxia - A Developmental Coordination Disorder in Clinical Practice



**Ennapadam S  
Krishnamoorthy,**

*MBBS, MD, DCN (Lond), PhD (Lond),  
FRCP (Lond, Edin, Glas), MAMS  
(India) Neuro Psychiatrist*

Founder - Buddhi Clinic chain of integrated brain and mind care centres,  
Past President- International Neuropsychiatric Association and Adjunct  
Professor- Manipal University & Public Health Foundation of India

In clinical practice doctors like me often meet children we classify as the 'clumsy child'. A condition that is prevalent in about 10 percent of the population in the United Kingdom, it is characterised not only by a delay or disorder in movement execution and planning, but also with deficits in attention and perception. Many children affected by developmental coordination disorder (DCD) fall within the broad rubric of 'Neuro-developmental Disorders' (NDD), have associated problems like dyslexia, dyscalculia, attention deficit, and face developmental, social, personal and educational challenges. The absence of a clear nomenclature and a focus hitherto on symptom based interventions, rather than a disorder- based one, has resulted in much confusion. DCD has also been referred to as 'motor learning difficulties', 'developmental dyspraxia', 'disorder of attention motor control and perception' (DAMP) and 'clumsy child syndrome'.

We will now try to understand the DCD concept, what underlies them and how we as professionals may approach the problem.

Let us take a 5W 1H approach. 'I have six friendly men, they taught me all I know; they are who, what, why, when, where and how'- Rudyard Kipling

## What causes DCD?

Conditions that follow abnormal brain development and impact on motor (strength, dexterity, coordination); cognitive (intelligence, learning, aptitude, speech and language); or emotional and behavioural (mood swings, temper tantrums), social (ability to interact with peers, communicate and negotiate needs, form lasting relationships etc.) function are all associated with DCD and its broader progenitor Neuro-Developmental Disorder (NDD). Both inherited (genetic, metabolic) and acquired (early brain injury) may have a role to play, although the etiology is somewhat unclear. From a preventive health perspective, it is important to understand that the causes may lie in critical stages of human development. During pregnancy - trauma, drugs, alcohol, smoking, infections, malnutrition etc. Factors affecting the child include birth trauma, infection and neonatal compromise (asphyxia, jaundice, accidents

or abuse, infections, malnutrition); undiagnosed and untreated epilepsy and other neuro-psychiatric disorders.

## Who has DCD?

The most common conditions to co-exist with DCD include Attention Deficit & Hyperactivity Disorder (ADHD), reading disability, specific language impairments. While ADHD is most common appearing to co-exist in almost half of people with DCD, Autism Spectrum Disorder (ASD) has also been reported as a co-morbidity.

## When should we suspect DCD?

Primary symptoms according to the American Psychiatric Association (2013) include difficulties in gross and fine motor coordination, speech and language, eye movements, perception, learning, thought and memory. Secondary symptoms include emotional and behavioural reactions. According to the Dyspraxia Foundation (2017), the affected person could have difficulties with balance, posture, fatigue, rhythm (such as dancing) and overall clumsiness (gross motor) or in handwriting, typing, grooming and manual dexterity (fine motor); difficulty in visual tracking or relocation of objects. Speech and language difficulties include problems with volume, tone and

pitch of one's voice, and organising the order or content of speech. In learning, thought and memory, being slow to complete tasks, maintain concentration, struggle with short term memory and follow multiple instructions pose challenges. In perception, altered sensitivity to light, sounds, smells and a lack of awareness of one's body in space complete the picture. The presentation of symptoms may vary according to the age when the child is assessed, many children developing a range of coping strategies.

### Why should we take action early?

Children with NDD are often poor performers and/or perceived troublemakers in school. Without adequate help and support, they slide down the educational scale, drop out of mainstream schooling into special schooling systems that cannot really tap their potential. Further, children who do not receive support are likely to feel stigmatised and lose their self-confidence as their activities are limited in school and social settings and there emerge a range of participation restrictions.

### Where should I take my child, when in doubt?

Your paediatrician should be the first port of call. The class teacher may also have valuable inputs. When, either the paediatrician or the class teacher, or both, suspect a problem, more specialised inputs become necessary.

### Consultations for DCD include:

- Learning and intelligence- clinical and educational psychologists, special educators
- Motor weakness/other brain disorders (like epilepsy) — neurologist assisted by the occupational therapist
- Behaviour — psychiatrist or psychologist
- Language development - ENT doctor supported by speech and language therapists

In many instances, comprehensive assessment requires a team approach. Depending on the problem a range of laboratory tests may be required -- brain scans, EEG/ electrophysiological tests; blood and urine tests including hormonal assays, genetic studies and so on.

### How should I progress once diagnosed?

The child's paediatrician should be the primary

support, although this could be the primary medical or allied professional, working with the child: for example, the special educator. The child's school needs to be briefed transparently and kept in the loop through a statement of special needs. Identifying a key team of professionals, consistent interactions between them with an efficient communication tool, for example a notebook where case notes are updated, like in many Government hospitals, and regular follow up on a need basis. Sustainable plans, realistic goals, preparing for the marathon, not the sprint, complete the picture.

It is important we don't focus only on the disability. The child may also have special interests and abilities and we should focus on those too. Most parents find care-giving challenging and tiring; training them to share the care as a family, develop their support networks with professionals, other parents and fellow travellers will help them keep their spirits up.

### A Note on the Autism-DCD Interface

Autism Spectrum Disorder (ASD) is characterised by difficulty in social interaction and communication and restricted interests and repetitive behaviours. Sensorii-motor symptoms as part of ASD are a growing area of interest and have been described from the time of Kanner, the pioneering psychiatrist. The interactions between DCD and ASD could therefore achieve proportions of two independent and co-occurring diagnostic entities, or indeed DCD symptoms being present as part of the Autism spectrum in some individuals. The table (1) below identifies some key differences.

In summary:

- DCD is not uncommon; many people who fall under the rubric of NDD (people with DCD) are not routinely screened for the same
- Both assessment and care have to be delivered by a multidisciplinary team
- People with DCD can achieve their educational, occupational and social potential, if they have the right support; there is a role also for schools and parents in this regard
- People with DCD are not routinely screened for ASD, nor are people with ASD routinely screened for DCD. The overlap is considerable and important to identify

- As the Swedish concept of ‘Disordered Attention Motor Development & Perception’ (DAMP, described by Gillberg) suggests, the overlap of symptoms in clinical practice is considerable
- More research and a structured approach to diagnosis and classification are required.

Symptom	DCD	ASD
Working memory ability	Visuo-spatial working memory affected	Verbal short term memory affected
Motor Co-ordination Skills	Impaired in all	Impaired but in some can be severe enough to warrant a DCD diagnosis
Gestural Skills	Not impaired	Impaired
Grip Selection	Predicted bias towards minimal rotation	Identical to normal controls
Face processing	impaired in some	Impaired in most
Social Challenges	Present in some - more from interactional difficulties	Present in the majority as a core symptom
Theory of Mind/Emotion recognition	Higher	Lower (but the high functioning people with AS are similar to DCD)

**Selected Reading:**

1. Meachon Emily J. An Investigation of Dyspraxia: What We Know and Why the Research is So Far Behind. Research Gate, uploaded on 26th March 2018
2. Cacola Priscilla et al. Behavioural Comparisons in Autism Spectrum Disorder and Developmental Coordination Disorder: A systematic literature review. Autism Spectrum Disorder. 2017 June; 38: 6-18

# Importance of Occupational Therapy for Individuals with Dyspraxia



**Asian Women’s Welfare Association, Singapore**

**Introduction, Background and Diagnosis**

You may have interacted with people who appear to be clumsy, keep knocking into furniture, getting themselves hurt or slower in learning a new sport. These individuals may have dyspraxia, which means ‘difficulty in planning and carrying out motor activities’. They typically have difficulties with motor skills, balance and coordination. Their ability to plan and perform activities that require a series of actions would also be compromised.

Although dyspraxia is a commonly-used term amongst allied health professionals, educators, medical practitioners and the public, it is important to note that dyspraxia is not a formal diagnosis. Another term that is commonly associated with dyspraxia is ‘developmental coordination disorder’. This is a condition that can be formally diagnosed on the Diagnostic and Statistical Manual of mental disorders (DSM) 5th edition with the following criteria:

1. Performance of activities that require motor coordination is substantially below what would be expected given the child's chronological age and measure of intelligence. It may be manifested by:
  - a. Marked delays in the achievement of motor milestones (crawling, sitting, and walking)
  - b. Dropping things
  - c. Clumsiness
  - d. Poor performance in sports
  - e. Poor handwriting
2. The disturbance in motor performance significantly interferes with academic achievement or activities of daily living
3. The disturbance is not due to a general medical condition such as cerebral palsy, hemiplegia or muscular dystrophy
4. The disturbance does not meet criteria for Pervasive Developmental Disorder
5. If mental retardation is present, the motor difficulties present must be in excess of those usually associated with mental retardation alone (American Psychiatric Association, 2013)

### Challenges experienced by individuals with dyspraxia

Due to their challenges in planning and executing the actions, persons with developmental coordination disorder may find it difficult to complete day-to-day tasks. Throughout their lifespan, they may continue to encounter challenges at different stages for various activities.

Activities that may seem simple for others would be an uphill task for them. Examples can include a preschooler wearing clothes by themselves, a school age student completing their work in class with their peers, or finishing a meal without spillage, a teenager learning a new sport during the physical education lesson and an adult learning to drive.

How to help – Role of occupational therapy  
Individuals with dyspraxia can be supported both by their family members and professionals including therapists and educators. Occupational therapists, in particular, can play a huge role in supporting these individuals. Occupational therapy is a 'child centered health profession concerned with promoting health and well-being through occupations' (WFOT, 2021). Occupational therapists typically would use several factors to assess and design interventions to support

the person with dyspraxia. These include personal factors, the environmental set up and demands as well as the occupation or activity in which the person is participating. As the condition is usually picked up when the child is young, interventions would focus on helping the child to learn to solve the problem when they have difficulties completing a motor task.

### Assessment of needs

Occupational therapists (OT) take an occupation and child-centered approach throughout the process. OTs will interview the child and family members to find out more about their personal interests and values, performance patterns, successes, as well as the environment the person functions in. OTs will also explore the occupation in which they are facing most challenges so intervention is focused on that occupation.

Standardised motor assessments and observations of the person performing the identified occupation will be conducted for an analysis of the child's strengths, challenges and current abilities. This information will also help the therapist to tailor the intervention to be unique to the client.

### Occupational Therapy Interventions

After analysis of the assessment, the OT will take several approaches to support the child to successfully participate in the desired occupation. These approaches may include:

#### 1. Collaboration between the client and OT

- There is a strong emphasis on child-centered care which is crucial for children with dyspraxia. Persons with dyspraxia have abilities to communicate their needs and wants and their autonomy would be respected by the OT working with them. In the assessment process, OTs establishes the child's strengths and competence. This information is built into the intervention design and implementation.

#### 2. Environmental Modification and Compensatory Methods (Fisher, 2009)

- The OT will review the environment in which the child performs the occupation and may make modifications to reduce the demands on them. For example, the OT may help children with dyspraxia to set up their study area for an

examination by reducing the amount of stationery and objects on the table, ensure table and chair height is at an appropriate level, reducing environmental distractions such as noise and light.

### 3. Modification of the occupation

- The OT can also analyse the steps required to complete the desired occupation, and simplify or modify the steps for the child. An example would be for an OT to work with the child to think of different ways to cook a specific dish or to learn a new sport, the desired occupation. The OT may use an evidence-based approach called Cognitive Orientation to daily Occupational Performance (CO-OP Approach™) (Novak & Honan, 2019) in doing this. This approach supports collaboration between the child and the OT to discover the best way to perform the desired activity or occupation (Kravinsky, 2020).

### Summary

Children with dyspraxia should be looked upon as great partners in their therapy process. They have strong abilities to contribute to their interventions,

and occupational therapists function as a collaborator to support the achievement of the client's desired goals in their occupational participation.

### Reference:

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC

Kravinsky, D. G. (2020). Cognitive orientation to daily occupational performance (CO-OP) approach: evidence-based, occupation-centred intervention for children. American Occupational Therapy Association

Novak, I & Honan, I. (2019). Effectiveness of paediatric occupational therapy for children with disabilities: A systematic review. Australian Occupational Therapy Journal, 66, pp. 258 – 273.

World Federation of Occupational Therapists. (2021). About Occupational Therapy. Retrieved from <https://wfot.org/about/about-occupational-therapy> on 24 Jun 2021

## The Behavioural Aspects in the Manifestation of Dyspraxia Across all Ages



**Dr Ravi Samuel Ph.D**  
**Psychotherapist**

It is a moment of great joy in a family when a child is born. It is far more delightful to see the child grow. While a child is growing up, parents and grandparents proudly exhibit what they have learned or developed. When there is a problem in such development, like rolling over in bed, crawling, speaking, walking, or holding, the parents feel embarrassed and start worrying about it intensely. One of the issues in a child's development is dyspraxia – a lack of coordination of body parts (gross motor control and fine motor control), cognition (attention and concentration, planning an activity and memory problems) and secondary behavioural problems (difficulties in social situations).

The brain does not process information smoothly to facilitate the coordinated movement of limbs. A child affected by dyspraxia will find it challenging to plan their activities and perform them smoothly. Dyspraxia



**Rise above your disappointments to address the problems of the child!**

affects the person throughout their life.

In the initial stages, parents may notice the child having difficulty in 'turning over' or 'crawling' or in 'sitting'. When the child is above four years, they may find it challenging to play with other children as they may not be able to hop, jump, catch a ball, or use play objects in a coordinated manner.

The difficulty in performing, parents' attitude towards such challenges, and others' ways of relating to them can lead to psychological problems like low self esteem, avoidance behaviour, aggression or even mental health issues like anxiety, depression or even psychosis.

The child can get quickly excited and make loud shrill noises. This can lead to others avoiding the child. The child can intuitively know that others are not responding appropriately or answering adequately. The feeling of rejection can affect the child's emotions and exhibit crying, showing distress by making noise, and other tantrums. These behaviours will further alienate the child from others.

When they go to school they may have difficulty in writing, drawing, using geometry instruments, holding a test tube etc. These may result in other children noticing some oddity in the child and may start avoiding the child. Dyspraxia is such that in each stage of a child's development and later in adult life, they will have problems with fine motor movements. During teenage, they may find it challenging to play a sport, so this will lead to social isolation. They may not be able to ride a bike, so their mobility can get affected. Also, behavioural issues can affect their functional ability in life. Unless they learn some compensatory mechanism, they may not be able to do the activity.

**A child can easily perceive the indifference and neglect!**

As adults, they will not be able to perform specific jobs requiring dexterity like using the iPad, drawing, designing, surgery, flying an aircraft, etc. This will be a disadvantage when they have to choose their career. The person can experience problems that will lead to emotional issues, leading to behavioural issues. These behavioural and emotional issues in a hostile environment will affect the self-esteem and in extreme cases, the personality of the child. They can become very withdrawn, shy of people and avoid all social interactions. When they contact people, they can develop anxiety, so the natural response would be to avoid – thereby forming an avoidance personality.

**Behaviour can be internally driven or externally stimulated. Just punishing a child will not bring desirable behaviour!**

Behaviour therapy for a child with dyspraxia will consist of inputs by a team of mental health professionals - psychiatrist, psychologist, behaviour therapist, and psychotherapist. In case the child develops psychiatric issues like anxiety disorder, depression or psychosis, they will treat with medication. If they require assessments on morbidity or personality or need to know the intelligence, psychologists will do assessments. The behaviour therapist will do behaviour modification therapy to change the child's behaviour from undesirable to desirable behaviour, while the psychotherapist will intervene when the family has lots of conflicts among themselves, in case one develops emotional or psychological problems. Sometimes the psychotherapist will do family counselling to enable the family to reduce the disputes directly affecting the functioning of the family members.

Various behaviour modification methods are available to improve the child's behaviour; desensitisation, graded exposure, rewarding, negative reinforcement etc. The child will benefit enormously from these behaviour modification techniques.

### **Conclusion:**

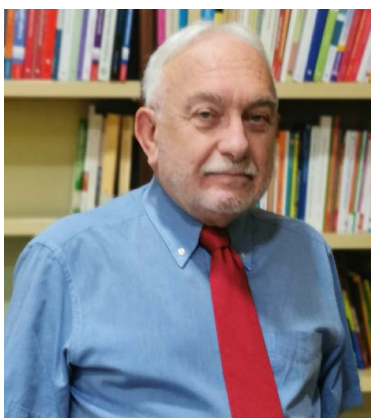
Dyspraxia affects mainly motor coordination and cognition for a life-long period. Occupational therapy,

behaviour therapy, physiotherapy, speech therapy and other therapies are crucial to improve the child. Parental attitude towards the disorder, their approach to treatment, and their motivation will play a pivotal role in a child's development. Parents need to be committed and consistent to help the child without giving negative feedback about their behaviour and inabilities! Parents have to always focus on what the child can do as children affected by dyspraxia are also known to be creative, motivated and hard-working! Please do not read all the literature on behavioural problems on the internet and try out behaviour

**Do not try to know more than what you need to know!**

therapies at home. Case studies of different levels of severity of dyspraxia under other treatment conditions will get you worried about problems you may never face. Try to know only material relevant to your child's concerns. Each child will have different issues, so do not generalise and get alarmed.

## Dyspraxia and Movement



**Prof. Piero Crispiani**

Unilink University Rome, Pedagogist, Scientific Director of Italian Dyslexia Center, President of COMIS, Cognitive Motor International Society  
[www.centrostudaitard.it](http://www.centrostudaitard.it);  
[www.istitutoitard.it](http://www.istitutoitard.it);  
[www.disprassiaitard.eu](http://www.disprassiaitard.eu)

### **Dyspraxia makes us question: 'What is happening in childhood today?'**

Slowness and the disorder of executive functions in terms of sequential/procedural dysfunction (based on the concepts of space and time) form the basic concepts of the Crispiani Method. Dyspraxia is not a pathology but a 'human condition'. Our method, the Crispiani Method, works to improve the child's profile: 'We can....we must'. It is a rehabilitative intervention/therapy that aims to improve skills,



**Dr Eleonora Palmieri**

Psychologist, Pedagogist, Researcher, Itard Specialist, Director of Psychological and Pedagogical Victor Center Macerata  
[Italy\\_palmieri.eleonora1@gmail.com](mailto:Italy_palmieri.eleonora1@gmail.com)

not to bypass them. Learning differences such as Dyspraxia are characterised by a lack of coordination of actions and there is often poorly established lateral dominance (dys-laterality). Dyspraxia is an important root and many syndromes belong to it (autism spectrum, dyslexia). We recognise that it is considered phonological in origin, so this approach integrates the fundamental motor components of dyspraxia, as a space-time dysfunction that is common and similar to other syndromes such as ADHD and Autistic Spectrum Disorder and above all Dyslexia. This is an

important starting point where we can work to solve a broad range of developmental difficulties in many children.

In a series of neurobiological and functional studies we undertook, with reference to the investigation of cognitive processes and motor coordination, our Praxic Motor Theory (TPM) provides a developmental account of dyslexia in terms of a disorder of praxia (meaning action). This is with particular reference to the sequential functions/procedures, and the fluidity of executive functions, and involvement with the organisation of space and time, and lateral dominance. Critical aspects concerning functional performance are related to neuronal cortical circuits, in particular, in the bi-directional exchange between brain areas and in inter-hemispheric reciprocity. In this complex system, both the cerebellum (cerebellar function as sequential projection in motor areas) and lateral dominance are important.

The Initial training programme provides the practices of Cognitive Motor Training (CMT), based on Professor Crispiani's work and publications at the University of Macerata in Italy. CMT makes it easier to develop the fluidity in execution and self-regulation processes that are needed for the child to be successful in school. In reading, as in writing, maths skills and other cognitive functions, the activation and accuracy of performance is facilitated by neuro-physiological processes that engage the entire cerebral system. Our children need executive consistency. The key concept of the programme relates to the ways that motor and verbal coordination work together in an intensive way to create a 'Neuro Storm', where the intervention must deliver a high-level of multiple inputs with the therapist, at high intensity to achieve a functional automatization. With particular reference to the sequences and the fluidity of the executive functions relating to spatial temporal organisation and lateral dominance, dyspraxia is very common in many people. There is difficulty with rhythms and the visual and auditory perception is dysfunctional in terms of sequential processing.

The sequences develop in complexity, depending on age and the ability to synchronise movements, in say, crossing legs and arms through the axis of the body. The practitioner is responsible for coaching the child to improve, by applying enough pressure to enable them to carry out the activity with a high degree of automaticity. This involves not a simple repetition of activities, but leads towards synchronisation of multiple actions, targeted at the appropriate developmental level<sup>1</sup>.

Consolidating and supporting motor patterns, children with dyspraxia will achieve a better, more effective cognitive functioning. In this case rotator exercises are intended to support more flexible mental rotations.

Many children with dyspraxia are slow in starting; they are not ready for learning. It is like the beginning of a race, when you are ready to start: some are more ready than others. In our method we often use this word 'incipit', it from Latin and Greek and it refers to the initiation of an action. The method of assessment is ecological: Bio-Psycho-Active and includes: ODI: Observation, Description and Interpretation of basic skills (motor, perceptual, organisational, language, thought etc.) It also includes assessments of indicators of Dyspraxia communication skills, social skills and emotional status.

The criteria are qualitative in nature and draw on the contributions of the family and the teachers, as well as the children themselves. The assessment tools will vary according to the specific case and situation, based on professional evaluation. They include: observation, clinical interview, interviews or questionnaires, clinical tests and ordinal scales. This is a summary of all the areas of assessment that forms the basis of the functional dynamic profile.

<sup>1</sup>Cfr. Crispiani P., Palmieri E. "Champion Pressing", by Istituto Itard, 2016

# Helping Dyspraxic Children in the Classroom



**Angela Fawcett,**  
Emeritus Professor

Children with dyspraxia can present a particularly frustrating challenge for their teachers and parents in helping them to achieve their potential. Like dyslexia, dyspraxia is not linked to intelligence, and can also co-occur with dyslexia, particularly in aspects of automaticity and learned behaviour which can represent a challenge for both dyslexic and dyspraxic children. However, unlike dyslexia, dyspraxia has only recently been recognised as a disorder in its own right, and accommodations lag behind those for dyslexia, even in the UK and USA where dyspraxia is also known as developmental co-ordination disorder (which is listed as a separate disorder in the most recent DSMV) or clumsy child syndrome. There may be sensory integration problems, with sometimes problems only in speech rather than in more generalised motor problems.

A characteristic pattern of processing is found on the WISC IQ test, with higher verbal than performance IQ, which may mean that these children are regarded as lazy because their school performance does not match their verbal ability. At least 5 percent of children are dyspraxic, that is, at least one in each class in school, with 4 times as many boys as girls being affected. The neurological underpin seems to be that during brain development, the neurons fail to form adequate connections, which affects the processing of information. Symptoms that characterise dyspraxia may include delay in early milestones, problems with motor skills, learning difficulties in reading, writing and speech, difficulty in carrying out instructions, disorganisation and problems with eye movement. However, no two children with dyspraxia will present exactly the same profile, which makes life extra difficult for both the children and their teachers.

I have some understanding of dyspraxia myself, because, although never formally diagnosed it has been clear all my life that I struggle with motor skills, although I am an excellent dancer and have even won prizes. So, as a very young child, learning to write, I used a dip pen and ink. Being left-handed, I left a smudged snail trail across the page which made it hard to process what had been written. At the end of the day my hand has always shown the imprint of

grasping the pen too tight and I have a callus on my finger which persists to this day, although I usually type rather than write by hand, and even dictate to bolster my motor skills. The quality of my written work and imagination has always been excellent, but it is not easy to identify this in a messy piece of work.

In schools in the UK, penmanship today is highly valued, and many children with dyslexia /dyspraxia in my experience suffer in junior school from not being awarded their pen, unlike their peers, because they are only deemed fit to write in pencil. Teachers can help by an awareness of these difficulties, providing wide stemmed pencils and pens, or using a special grip, being aware that ball point pens can leave messy puddles if gripped too hard, or providing felt tips and erasers, and using graph or lined paper to help them with their spatial organisation. Finally, providing the opportunity to learn to touch-type where possible and use a computer in class to take electronic notes. It is even possible to provide alternative methods of assessment for children with dyspraxia, using electronic copies of notes to reduce the physical strain of copying vast swathes of material, and even filling in prepared blanks or matching exercises to provide an alternative way of responding.

A child with dyspraxia may also struggle with many of the fine motor tasks involved in art work or

crafts, and will benefit from clear instructions, in sequential order, and the opportunity to practice. I still remember as a Reader at university being instructed to make an alphabetic index for our research, struggling all day to produce a poorly planned and executed piece of work, which made me extraordinarily angry and embarrassed. As a child with dyspraxia, you become used to not being selected to join anyone's team and can find a range of excuses to ensure that you don't have to endure the humiliations of PE. For such children, it is important to find areas in which they can achieve their personal best, and encourage them to participate in these activities. For me it was dancing and drama, although I was never allowed to ride a bike, nor encouraged to pursue my love of drama, as I was not academic enough! Parents can help young children by ensuring that clothes with buttons and laces are avoided where possible, and accessible clothing is provided for games.

A key accommodation in school is access to extra time to organise material and complete work, and this should be set in motion from an early age so that it becomes the accepted way of working for that child and can be built into formal examinations, as well as in-school tests. I shall always remember a particularly bright female student who we diagnosed with dyspraxia in her 3rd year at University, and she went on to gain a first in her Psychology degree with extra time, much to the surprise of her parents who told us they had not expected her to even pass, indicating how easy is it to underestimate those suffering from dyspraxia because of aspects of ideational disorganisation. In fact, the speed of processing is the key to receiving extra time allowances in examinations in the UK in terms of current practice, whereas speedy but inaccurate reading may not generate any concessions.

Use of mind-mapping and apps associated with these skills will be useful for older children, and younger children will benefit from story boards to help construct their creative work. Children with dyspraxia should be entitled to access occupational therapy or

physical therapy, and some of them will benefit from speech therapy if their pronunciation is affected, and this of course, will impact on their phonological processing and their reading performance. Perhaps not surprisingly, there can be social and emotional consequences of the feelings of being an 'outsider' within their peer group, which may need support, particularly in the adolescent years. It is important for children with dyspraxia to establish their strengths, perhaps even have their idiosyncrasies recognised, in order to fit in with their peer group. Life can become easier for these children as they mature, because they can then select the areas of study which speak to their strengths and give up those that continue to challenge them unsatisfactorily.

Finding your way can remain a problem for children with dyspraxia, something they may find hard to overcome, and like dyslexics, may become over-reliant on satnav or GPS or the mobile phone to reach their destination. This can be a problem for adolescents in secondary school, who may experience difficulty not only in following a timetable but also in finding the correct lesson. This does not necessarily endear them to their teachers, who see a disorganised pupil who does not even have the correct equipment for their lessons. It is important for both parents and children to recognise these difficulties and find systems to support them, including to do lists and reminders on the phone.

Finally, understanding from teachers of the needs of children with dyspraxia can be the ultimate key to a successful outcome, as can be seen from my example of the student with dyspraxia, who was outstandingly successful when provided with the right opportunities and a diagnosis to explain her ongoing difficulties and boost her self-confidence.

Greater knowledge and awareness of dyspraxia and the impact it has throughout life is needed to ensure that children with dyspraxia are not held back by their condition, and can go on to become successful and fulfilled adults, attaining their potential in life.

# Dyspraxia and Technology



**Mala Raju**  
Special Educator,  
Madras Dyslexia Association

Dyspraxia is a neurological disorder that affects the use of muscles and manifests itself as difficulty in gross-motor skills, fine-motor skills, motor planning and coordination. Consequently, the individual would face difficulties in writing, speech and other movements.

Occupational therapists and physical therapists could work with these children to help them strengthen the body and build some of the essential skills impacted by this disability. In addition to spreading awareness amongst the teachers and the peers to get support within the classroom, children with dyspraxia also needs to be given accommodation to enable them to have a level-playing field in order to learn from the same material as the rest of the class.

The impact of dyspraxia would be seen in activities that require physical coordination and movements like those involved with daily living skills. It

may affect time management, planning, personal organisation and recall information at home, school and work.

Academic performance is dependent on the mastery of skills like reading, spelling, writing and mathematics. A child with dyspraxia may have difficulties with some pre-requisites sub-skills like pronouncing a word, well-established hand dominance, fluid eye movement, dexterous movement of hand and sense of direction.

Assistive technology is any piece of equipment or software that could be used to help an individual with disabilities cope with such difficulties faced or to improve and maintain functional capabilities. It ranges from aids like a pencil grip, a popsicle stick used as a spacer to augmentative and alternative communication devices and a high-tech Virtual Reality solution.

Work is being done in the field of haptic (sense of touch) learning that could supplement occupational and physical therapy rehabilitation services to help children with fine motor and gross motor difficulties. Body-wide haptic wearables provide feedback, helping the children to learn gross motor and fine motor tasks. Some wearables are designed with sensors that could give the wearer information of their position in space with respect to objects in their

vicinity, making social interactions less clumsy. This device could improve their interactions with their peers and decrease their anxiety in executing day-to-day activities.

Assistive technology for planning and organisation Children with dyspraxia could have difficulties in planning, organising and with other aspects like managing time and following multi-step instructions. Some difficulties also stem from issues related to poor memory, especially short-term memory. Simple aids like Post-it notes at strategic locations could serve as reminders. Digital calendars with reminder notifications and alarms can provide auditory reminders.

Instructions to complex or multistep activities could be done as a video. This makes repeated reference easy and independent. This would help the individual with dyspraxia complete the tasks on time and stay confident.

In today's digital world, pin numbers, credit card numbers, username and password need to be recalled on-demand. Applications that enable safe storage and retrieval make digital transactions safe and hassle free.

Voice assistant applications like Apple's Siri, Google's Assistant, Amazon's Alexa and Microsoft's Cortana

are called intelligent personal assistants too. Voice commands make it very easy for individuals with difficulty in motor planning and coordination to interact with their phones and computers to boost productivity along with maintaining calendars for appointments, read emails, add tasks to project management apps, and more.

Task management software enables listing and organising daily tasks and view goals achieved. They help building habits, gain control over time management and consequently build self-confidence.

#### Assistive technology for writing

Writing activities swarm academic pursuit. Copying from the board, answering questions in class and for homework, taking down notes are just a few of them. Difficulties range from laboured speed of writing, legibility, staying on line within the margin and planning and organizing thoughts and contents. While writing on paper use of writing tools can make the activity laborious and even painful. Wide-stemmed pencils, pencil grips, appropriately spaced lines marked clearly, spacers to help maintain space between words are some simple but effective assistive tools to ease writing.

Evidently repeated corrections in the written work would lead to frustration and consequently disinterest in the activity. Various word processing applications enable not only ease of corrections but also enable self-corrections through built-in spelling and grammar checks. Predictive text functionality reduces the effort of typing complete words. Furthermore, applications like Ghotit Real Writer (a paid software by Ghotit Ltd. for iOS) helps the individual correct misspelt spelt words by displaying words (with their meaning) based on the context. Apps are available for Android devices that provide text-to-speech for auditory proofreading, and a rephrasing tool that suggests better word choices. Many applications have functionality that can be used for a visual display of document structure making it easier to organize the content.

It has also been found that children with dyspraxia benefit from learning keyboarding early. [www.readandspell.com](http://www.readandspell.com) describes the effective use of the technique called touch-typing that uses the muscle memory of the hands to master spelling and

consequently write fluently. Children can be trained on this technique using multi-sensory approach. Note-taking is a very essential technique for learning. A student would need to take notes in class or while reading at home. A child with dyspraxia may find it difficult to keep pace with the teacher due to their labored writing. A speech-to-text software/device would be very helpful. Not only would the child be able to keep pace, but also use their mental resources to process the lecture better and ensure that they are correct.

#### Assistive technology for Reading

Difficulty in eye movement impacts eye-tracking. A simple device like a 'reading-window' not only helps the child to track the word but also read without losing position of the line being read.

Poor word reading and poor comprehension are some of the barriers that an individual with dyspraxia needs to cope with. Audio books and read-out aloud apps reduce the requirements for processing the written text and this saves the mental resources required for responding and reacting to source material instead.

Assistive reading apps like MDA Avaz Reader provide help in each of these areas for any text that the individual wishes to read. Word reading is made easier through strategies like following the pattern of known words and syllabification. The app comes with features that aid a better understanding of a word at the tap of a button, on-demand. Word meaning or pictorial representation of the word is an essential support to the reader. Morphological word analysis is one such support that explicitly splits the word into its prefix, root word and suffix, making it easy to understand the word meaning and its usage. The reader does not have to leave this text for looking up additional information like word meaning - a vital feature that reduces the frustration in a reader who has problem with tracking the line being read. Multi-sensory support enhances the reading and comprehension for a struggling reader. Some of the other features in the app enable the reader to build and sustain focus on the reading material.

Microsoft's Immersive Reader is a Microsoft product freely available for reading text content on a laptop. This software reads-aloud the text, syllabificates the words, and provides support to understand the

grammatical components of the sentence in terms of nouns, verbs, adjectives etc. At the word level, this assistive software gives pictorial meaning of the word. Additionally, a reader who understands another language better than English, could choose to get the meaning of the word in that language.

Both the above applications provide read-aloud options which incorporate simultaneous word highlighting and voicing text, thereby automating tracking of the text being read. These apps are designed with intuitive user-interface that enables customisation of many of the features offered. Font size, spacing between words and lines are some of the customisable functionalities.

In addition to these feature-rich apps, read-aloud apps, provides assistance by turning the text like PDF, web pages and word documents into an audio book. Text summarisers give a gist of the body of the text in focus, making it easy to integrate the central idea of the content, leaving out the less important and irrelevant text - an important aspect for effective

learning.

The assistive tools discussed here are a small sample of what is available in cyberspace. Some of them would have a few common functionalities and some unique features. A few pointers are given below to help you to select one that best suits the needs of the user.

- How easy is it to learn to use the device or application?
- Does the app or device provide support for the area you need support?
- Does it provide opportunities to incrementally develop techniques of self-help, at your pace?
- Does it take a multi-sensory approach?
- What feedback is provided by the program? Is it adaptive?
- Can the assistive technology be integrated into the day-to-day routine, with ease?
- Are there any testimonials from users who have found it effective?

Judicious use of assistive technology is a crutch that could pave way to achieving the related goals the individual wishes to meet.

## My experience with children with Dyspraxia



**Lakshmi Krishnakumari**  
Director, Sankalp  
Open School, Chennai

'Every child deserves a champion - an adult who will never give up on them, who understands the power of connection and insists they become the best they can possibly be' – Rita Pierson, Educator and Teacher for 40 years. A very significant and powerful belief which has enhanced a lot of my thought processes in the 30 years of my working with children with dyspraxia and other learning challenges.

My experience and observations are based on the belief that children with dyspraxia are determined, creative, empathetic, being able to see the big picture, loyal and unique, think in a different way and have a heart as big as the moon full of love and affection. However, the flip side to this condition are children who have a peculiar sense of physical co-ordination and awareness, moving around in a discomfoting manner, sometimes falling out of their chairs for no visible reason, who leave their belongings wherever they go, who have illegible handwriting or who can't jump, march, throw and catch a ball or tie their shoelaces. Among the only few listed here, if one finds a child that could have one or more of the characteristics, the issue may be more than disorganisation or clumsiness. The child may have dyspraxia.



'Dyspraxia' – also called Developmental Coordination Disorder (DCD) or Specific Developmental Disorder of Motor Function (SDDMF) in children and adults affects gross and fine motor development and can result in delays in normal developmental activities. This life-long condition affecting about 10 percent of the population is formally recognised by international organisations including the WHO. The manner in which the difficulty presents itself varies and may change over time depending on environmental demands and experiences in life. Dyspraxia is not as well-known as other learning and thinking differences, such as Dyslexia, Dysgraphia, Dyscalculia and ADHD. But it's quite common and often co-occurs with these issues.

Dyspraxia specifically refers to those children who have problems planning, organising and carrying out movements in the right order in everyday situations. A child with dyspraxia shies away from taking part in sports and any such activities that require fine and gross motor movements. It may also affect speech and is not a result of Cerebral Palsy or stroke.

### **What Causes Dyspraxia?**

Although the exact causes of dyspraxia are unknown, it is thought to be caused by a disruption in the way messages from the brain are transmitted to the body. This affects a person's ability to perform movements in a smooth co-ordinated way. The sensations of your back on a chair, your feet on the floor, the air on your skin all help you to navigate the space around you. If one of them is missing, it's as though the floor or the chair has disappeared suddenly. Messages that we take for granted are misinterpreted by children with dyspraxia.

### **What Dyspraxia may look like?**

**Poor Muscle Strength:** This appears to be the core issue. Children may slouch, slump and slide out of their chairs. Sitting up all day can be very exhausting for them. They also lack the hand strength to grip a pencil, crayon or pen for a long time resulting in writing and colouring issues.

A 15-minute walk would leave them fatigued, and standing up for more than a couple of minutes could be uncomfortable. There is a good chance somebody could have commented about the awkward way the child walks or runs, which results in poor self-esteem and depleting confidence levels.

**Clumsiness:** We never realise the muscle movements we make to carry out simple tasks like filing all important papers into a folder or packing a school bag/back pack. This may seem very simple but for children with dyspraxia numerous strategic repetitions will be needed to master these skills.

**Poor Executive Functions:** Another common characteristic is difficulty in following instructions, particularly ones with multiple steps. Managing their belonging, impulse control, regulating emotions, staying organised and planning ahead are all found to be very challenging.

Another side effect of dyspraxia is that children are not very good at filtering their senses, especially sounds. Background noises can disturb the attention required to listen in to a conversation or task. They are more easily overwhelmed by what's pummeling their senses, making them more vulnerable to panic attacks. They often get anxious in loud environments, like restaurants.

**Social and Behavioural Challenges:** Inability to keep up with a lot of day-to-day tasks can result in frustration and which makes them act out their behaviour. Acting out makes them wear a mask of helplessness in real life affecting their self-esteem. Lack of physical co-ordination also increases the risk of obesity.

Some parts of dyspraxia can also lead to social problems like unable to fit oneself into a conversation smoothly, leading to talking over other people quite frequently. I see this as tripping into a conversation. This is yet another frustrating way in which they seem 'rude'. For many children with dyspraxia, speech apraxia is their biggest issue. Speech apraxia is when messages from the brain are not all getting through your lips, jaw or tongue – basically the part of your body needed to speak effectively find it difficult to form words. This results in neuro psycho-pathologies, like anxiety and low self-esteem.

**On Supporting Students with Dyspraxia:** Dyspraxia can be seen as an invisible disorder of co-ordination. Since they look, physically, the same as their peers they are expected to perform at the same level. Every child with dyspraxia have their own needs, strengths and weaknesses. We can never use a generic set

of rules for all of them. We all need a starting point which, like in any disorder, would be an assessment. The assessment would be conducted in three phases by a psychologist, occupational therapist and speech therapist. Inputs through checklists and observations are also gathered from parents and school teachers. It is important that every educator be aware of this condition and start supporting children in regular classrooms too.

A few of the support routines are as follows:

**Play:** It is very evident that play is avoided by children with dyspraxia. Playing unstructured games as a class, games where no one has an advantage because everyone is a novice should be considered. Avoid games that put a single child on the spot as the centre of attention.

**Early Identification:** Delays in milestones like sitting, walking, standing, speaking or potty training are not to be neglected. These may be projections of a larger pattern.

As children grow, support their development through crossing midline activities. If you were to draw a line down the middle of your body, starting at the head, this is your mid line. Every time you cross that line with either side of your body that is crossing midline. This is something that all of us do every day without even realising it because it is an integral movement in our bodies from childhood. Children need it for reading, writing and other important everyday school as well as play activities. This skill is learnt by children from infancy to adult hood.

Some of the activities would be playing with toy cars on a large path, painting with paint brushes, washing the car, washing windows, wiping the table with one hand, watering plants or gardening, tracing or drawing the figure 8 pattern, with number eight facing side to side not top to bottom.

**Break Actions down into Smaller Steps:** Muscle memory is usually an issue for children with dyspraxia, and learning any motor skill will take time and effort. To draw a line joining two dots, to sit upright on the floor and pass items from hand to hand around a circle require the co-ordination of muscles and memory. Steps have to be broken down and practice given on a regular basis. This will

help children with dyspraxia remember multistep directions.

**Provide Organisational Support:** Consider checking in with students frequently, creating concrete achievable benchmarks to complete tasks. Create a checklist of everything the student needs to have with them when they get to class. They might need a checklist to help them remember the daily routine – morning and end of the day routines.

Students may struggle with remembering to write down their homework. And if they write it down, they may be in a rush and not copy it exactly. Getting them to the habit of having their agenda checked by the teacher is a good strategy, for this will confirm that the homework in their agenda is written down correctly and completely.

**School Based Occupational Therapy Services:** Therapy is meant not only for diagnosis but also help students gain strength and skills. The therapist may provide a home plan as well. Flexible seating options suggested by the therapist can be a real boon for these children.

**Equine Therapy for Dyspraxia:** In a study published in the Journal of Alternative and Complementary Medicine, a team of Irish, British and Swedish researchers evaluated the effects of equine therapy (Therapeutic Horse Riding) on a group of 40 children with Dyspraxia aged 6–15 years. The children participated in 6 horse riding sessions lasting 30 minutes each as well as two 30-minute audio/visual screening sessions. They found that Riding Therapy stimulated and improved cognition, mood and gait of the participants. (Reference: Medical News Today)

My advice to anyone who suspects their child may be struggling with dyspraxia is to do your research. The number of professionals and doctors who are familiar with dyspraxia is on the rise, but it is still a disorder that is overlooked. It is worth trying to find a professional who can help, since it can lead to receiving therapeutic services, educational accommodations and improvement in the quality of life.

I conclude by mentioning actor Daniel Radcliffe, who plays the clever wizard Harry Potter, a hero to a generation of kids, who has a mild form of dyspraxia. As a child he had trouble with handwriting and trying his shoelaces - his early years of growing up were very

difficult. Aware of the challenges it can bring, in a recent article in the Wall Street Journal he spoke these words offering encouragement to a 10-year-old girl with Dyspraxia. "Do not let it stop you. The fact that some things are more of a struggle will only make you more determined, harder working and more imaginative in the solutions you find for the problems". The very fact he shows no sign of it at all today is a great tribute to his acting skills and makes him a real model for other people with this condition.

## Our Donors



**Ravi Venkatramani**  
Exeter Premedia Services

We had the pleasure of meeting DC a few years ago and learned about the wonderful work he was doing at MDA. MDA is an organisation built with very clear goals of spreading awareness about Dyslexia and creating resources that teachers can use to help dyslexic children achieve their true potential. They have a wonderful team that is extremely knowledgeable and committed to the goal and have grown in strength every year.

Dyslexia is a condition that affects a large number of people who without help will not only fail to build a productive career but also become a burden to society by veering towards unsavoury activities.

An alarming statistic I read recently stated that over 50 percent of the prisoners in US jails have dyslexia. Indian schools and teachers have very little awareness of the condition and lack the tools to work with children with this condition. Clearly, a lot needs to be done and MDA is definitely a flag-bearer leading the effort.

MDA is building valuable training materials for schools across India and have even taken the effort to translate this content into multiple languages. I applaud MDA for all they have done for schools and teachers across India and wish them the very best for the future.

## MDA and Covid 1.0



Team MDA

### MDA adapts to cope with the challenges thrown by the pandemic

MDA has been making a smooth transition from the early stages of basic ad-hoc solutions to well designed and professionally executed live online remedial sessions for children, training programmes and webinars, screening sessions and support to school based resource rooms. In resorting to WFH (work from home) all our staff and associates were digitally connected to ensure connectivity and continuity of conducting business. Special mention needs to be made about the IT infrastructure that

has been created with video conferencing facility so that everybody could stay in contact with minimum disruption.

The journey began with basic sessions to provide immediate remedial support to ensure that the students of Ananya did not face any 'pauses' in their academic inputs. The efforts were focused on ensuring the required resources were made available to the special educators and making the changes in

schedules and deliverables with minimal impact on the learning process for children and the trainees. Madras Dyslexia Association has always been progressive about leveraging technology. The policy of early adoption of technology provided the required foundation to ramp up and align with the exponentially increasing use of technology to meet our commitments to students, schools, parents and trainees.

The team started working towards strengthening itself on the use of technology and online teaching techniques. To begin with, we ensured that all the special educators had camera-enabled computers with associated peripherals and the required platform to conduct the classes and meetings. These resources - computers and licensed access to a web conferencing application - had been donated to us in the previous years by well-wishers and philanthropists which proved to be a significant support to get us off the starting block.

Realising that long-haul solutions were required to tide over the possibility of extended suspension of physical classes for children and trainees, we invested our efforts in identifying, acquiring access and training in the use of cost-effective virtual meeting rooms, allied software and hardware. Alongside, we redesigned teaching methodologies and course structure to meet the challenges posed by the online medium while leveraging its strengths. We went through the processes of acquiring free access to applications based on our not-for-profit status. Video tutorials were made to simplify the process of onboarding the special educators to this extensive use of technology.

With every passing day, we grew more confident about reaching out to our children, trainees and other audiences in a manner that was nearly as good as the physical classes. The audiences were also gaining confidence and were more forthcoming. Our online presence was not just limited to training sessions, webinars and remedial sessions. We successfully presented an Online Musical Event to raise funds and spread awareness on dyslexia along with a group of amateurs passionate about music and contributing to the society.

Madras Dyslexia Association continues its endeavour

to adapt to the need of the hour and persevere in its mission to penetrate deeper and wider in order to empower more children with dyslexia and their stakeholders.

### Strategy for Training

Physical presence being the backbone of training the participants getting to be impossible under the circumstances, a crisis like this taught us to develop new strategies to survive, sustain and grow. The following were the major steps taken to ensure business continuity.

1. All trainers were trained in handling various online platforms such as Zoom, Google Meet and Microsoft Teams to conduct training programmes.
2. Content of all training modules was updated and upgraded
3. Post training feedback related to digital delivery was acted upon immediately for course correction, so that improvements could be made on future training requirements.
4. Digital Marketing for training was done over phone calls with unique digital presentations to get focus and prompt feedback.
5. Strategies were developed for hybrid training for better impact and gainful knowledge to participants once the pandemic eases out.

The trainers of MDA with their perseverance to adapt to this new mode of training have proved their effectiveness in reaching out to participants.

We have done around 15 online training programmes during 2020-2021 and are happy that we have gained acceptance in terms of our efficacy in training online.

### At Ananya

The Covid pandemic has triggered new ways of learning, primarily online learning which has a number of tools such as videos, PDFs, podcasts that are used as part of lesson plans.

Children have become login members of Google and Zoom meetings and not the disciplined students of real classrooms facing black boards. Lessons are taught using voice and audio channels. Most of the time, 'hello?', rather than 'have you understood?' is the punctuation pause. It is a continuous juggle for the

teachers to be alert, gain and hold the attention of the children, and then kick-start the process of teaching. Teachers and students do not see each other as real beings but as images in a video. While, tech-savvy children play with the magic of switching off the video, muting audio or completely vanishing from the scene, it is a challenge to hold and engage them without losing out on quality and attention. For the special children who have challenges in reading and writing, teachers have had to create a perfect learning environment suited to the needs of each student by planning exclusive individual learning plans for them. Stories, personal anecdotes are used to strengthen the learning process. Teachers have had to keep their online classes crisp and interactive to help students stay focused on the lesson. The children were grouped such that there were more interactions between students and with the teachers. Students were given plenty of breaks from the screen to refresh their mind and body. Silent moments with chanting, deep breathing techniques are effective in refreshing their eyes and minds.

Yet, it is good news that HYDRA - our non-academic learning through the multiple intelligences approach - has made learning more fun and effective as it taps the talents of children.

Overall, learning has become a process rather than an enjoyable activity. WIFI connectivity is of exceptional consideration and is again a test of the children's capacity to listen as much as it is of their sharpness and absorbing capacity. Indeed, most of the pitfalls the teachers faced were in being ignorant about the latest teaching tools and kits to be used in a virtual classroom.

However, none of this has crippled the student community from learning. It has allowed them to attend classes from any location. Children have had fewer chances of missing out on daily lessons. There are advantages like live experience of learning concepts, maintaining personal rapport with the teacher, greater clarity for students by asking a lot of questions and clearing doubts with ease.

### **Part time remediation**

Necessity being the mother of invention, the need to deal with the pandemic has encouraged MDA to look for avenues to continue teaching our children without

much disruption. We did not want anything to affect the children's classes as that would prove detrimental. Among the new ways to continue operations and adapt to the new normal, online platforms were the most feasible.

Each one of us in the team was familiar with many of the online platforms and had used them for our personal interactions, but, teaching online was another thing altogether. We had to understand various aspects of these platforms, and familiarise and adapt ourselves to be able to launch online remedial classes for our children.

Many of the teachers had to learn new technologies, install new hardware and software, and also make changes in their methods of interactions, to be ready for the online sessions. Teachers quickly adjusted and enthusiastically took to the platform and online teaching. We experimented with the features of the platform and understood that by restructuring our programme we could reach out to the children in interesting ways. We took extra effort to ensure that their understanding and learning were not affected in any way, and collaboratively handled a session to make it interactive.

All our worksheets were carefully designed using the appropriate font size, colour, and pictures to make it easy for the children to understand and learn. The classes were scheduled at the convenience of the children. MDA workbooks were couriered to the children to make it easy for them to do their work. Some worksheets were sent in advance and the children took printouts and kept them ready for each class. The one hour class included all the features of the physical programme. We included our regular Wonder Exercises programme and also played activities-laden games to improve their auditory and visual skills. The Science classes were made interesting with live demonstrations of experiments and explanations using materials available at home.

To keep the children's morale and interest intact and to create an opportunity for the children to interact and meet other children in the group, we organised many events to enable them to display their talents. We celebrated Teachers Day, Children's Day and Diwali with different kinds of competitions in art, handwriting and story-telling. They also painted diyas

and made lanterns using origami.

We introduced a new event to inculcate the habit of reading, by conducting the 'Reading Marathon', which was a resounding success. Many children developed the reading habit after the programme. Pongal celebrations witnessed singing, dancing and music. We completed the year with the Study Smart Workshop, which was well received.

Although we were not meeting the children physically, we did not deny them anything. As the days progressed we became more comfortable working from the luxury of our homes. The children also adapted to the new way of teaching and progressed very well.

Every challenge provides its own opportunity. Online remedial classes are here to stay and they will help us to provide our expertise to more and more children, in any part of the world, independent of physical location.

### **Occupational Therapy intervention**

Occupational Therapy interventions for children with dyslexia is an effective support mechanism for both parents and children, which mainly focuses on gross and fine motor skills, visual perceptual skills, Brain gym exercises, hand and eye coordination exercises, brain and body coordination exercises, reflex integration exercises, midline crossing exercises, postural exercises, exercises for eye-controlled movement, bilateral motor coordination exercises, sensory integration therapy, activities to help combined neuro and sensory issues and also various sensory kit demonstrations for children with Sensory Processing Disorder. To make the various ideas and innovative therapy sessions viable and workable at home, MDA provided continuous home programme demonstrations with supervision and monitoring.

As children become increasingly sedentary in today's technological world, with Covid confining them, it becomes all the more important for them to make online therapy a deliberate and regular part of their daily routine.

Research has shown conclusively that therapy serves to facilitate healthy brains since exercise creates the nerve connections needed for optimal brain function.

Moreover, to help children get ready for school and prepare their pre-academic skills, pre-writing skills, postural skills, and eye & hand coordination skills are crucial.

The Online Occupational Therapy services support and help parents of children who need occupational therapy, keeping in mind how frustrating travel from home to therapy resource rooms normally and more so in this pandemic situation can be. While providing outstanding value oriented access to qualified expert therapists, personalised therapy programmes are designed for each child focussing on the concern about the improvements and maintenance of the functioning skills in children until school reopens and normalcy is restored. Correspondence via email, telephone and webcam facilitates wholesome and complete support for the child's therapy along with regular reviews to enable discussions on the child's progress and if any new issues crop up.

The Online Occupational Therapy services provide specialist support for children via the computer or phone or other devices in their homes, anytime, anywhere.

### **Online screening and assessment**

Normally, parents who feel that their child is struggling with reading, spelling, writing, or difficulty in Math and other academics, approach MDA to understand the severity of the difficulty and to identify the remedial assistance needed for the child. In certain cases, the children are referred to MDA by the school in which they are studying, for them to undergo a formal assessment. This assessment hitherto was being done in person at the MDA premises. A formal assessment report would be issued thereafter, based on the evaluation conducted by our assessors. Recommendations for concessions / accommodation to be granted by the school / Board of Studies (CBSE / ICSE / IGCSE etc.) are also provided as part of the assessment report.

Given the pandemic situation prevailing in the country, it is difficult for an in-person assessment since the child or the assessor is unable to visit the centre. to circumvent this, MDA has introduced the following since June 2020:

- A-Level Screening for students in Classes 1 and 2
- Online Screening for students in Classes 3 to 7

- Preliminary Screening for students in Classes 8 onwards (for non-Concession candidates)
- The objective of these was to understand the skill deficits of the children with Dyslexia.

#### MDA and Covid 1.0 early intervention

While, when the going gets tough, the tough get going is the norm, we at MDA may or may not be tough, but we definitely enjoyed transitioning to the new normal and delivering value to all our stakeholders. The sheer excitement of learning new technology, new ways of creating training materials, new ways to conduct training, all combined beautifully to create accelerated learning for all involved in Early Intervention.

Guru Kripa, a US based organisation which is involved in empowering teachers, collaborated with MDA and is providing funding to create a programme for training and assessment for early intervention. To facilitate this, all related material was digitised, thereby making information available to all across the board. This has made working on the project easy and paperless. Also work on the content for an exclusive training programme for enabling teachers to identify and handhold children who may be at risk, has been fast-tracked.

Online Awareness sessions have enabled us to reach out to young parents and caregivers across the globe. By weaving in the importance of traditional practices and games into these sessions, the reach for better understanding of early childhood development has been accomplished. Also, the early intervention teacher training module has been successfully transitioned online and has been extremely well received by various organisations.

Some important assessments that could not be postponed were done following all the safety protocols. It was amazing to see children come masked and maintain social distance while they cooperated with the assessors. In the event where assessment has been delayed, we have been interacting with parents and successfully providing home programmes so that the children get the required help while waiting for the formal assessment.

While the pandemic has been a difficult period it has also led to many positive outcomes. It has erased geographical boundaries. We are happy to be able to reach out and help children in the comfort of their homes by providing the required support. Even the teachers who have reached out to us through the training programmes have utilised this time to upgrade themselves.

#### Coping with Covid 1.0 in Resource Rooms

The year 2020 was to be the year for reaching out to more deserving students, with new resource rooms planned and the existing ones set for renewal. Schools having to close their physical classes during the pandemic greatly affected the process of remediating children with dyslexia in the resource rooms. Fully understanding the gravity of the situation and the impact it would have in terms of the void that would be created in the learning of children with dyslexia, we at MDA decided to enhance and adapt our tele-monitoring while reinforcing the relevance of the resource rooms in keeping with the scenario of online classes.

The biggest challenge for special educators is to present material in a manner by which they can first get the children to focus, which was a cause of concern for the heads of schools. The special educators were provided with continuous handholding, enabling learning activity to get translated into presenting the content in a suitable manner online.

The special educators were briefed by an orientation initiative by the monitoring team at MDA. The tasks like observing a child online and screening them to identify difficulties, hitherto done physically, were demonstrated to them through MDA's dedicated monitors, while the special educators' online remedial session was overseen with adequate monitoring assistance.

With tremendous commitment from the special educators and our monitors, the children started showing significant improvement in the areas of concern.

Having made a success of our initial efforts, other schools were approached for the online exercises

even while allowing them to observe the innovative online remediation methodologies provided by our after-school remediation team.

The successful implementation of online remediation the previous year, has enthused us at MDA to reach out to more children with dyslexia in the forthcoming academic years as well. With online teaching gaining ground it would be prudent to invest in new methodologies for online remediation. MDA has been endeavouring in the effective and increased use of technology. The various dynamic strategies and meticulous planning have helped MDA conduct its activities optimally in this unprecedented crisis.

**Madras Dyslexia Association**

94, Park View, G.N. Chetty Road,  
T. Nagar, Chennai 600 017  
Tel: 2815 6697, 2815 7908  
Email: ananyamdachennai@gmail.com  
Website: www.mdachennai.com

**Editorial Team**

Dhanalakshmi Ayyer  
Harini Ramanujam  
Kalyani Balakrishnan  
Mrudula Govindaraju

Prema Raghunath  
Ram S  
Shanthi Chandrasekhar  
Sushi Natraj

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