ABA Therapy based on Discrete Trial Learning and Pivotal Response Treatment

This flyer is based on the paper entitled:
Pivotal Response Intervention I: Overview of Approach
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The need for effective Applied Behaviour Analysis (ABA)-based treatment that is delivered in a time and cost-efficient manner is crucial, as HCWA, Better Start and Medicare funding is limited and intensive early behavioural intervention before age 6 is vital.

Historical perspective:
In 1973, Lovass and Koegel developed Discrete Trial Learning (DTL) as a method of teaching children with Autism the skills required to normalise their learning and behaviours. Although the children made gains and usually learned each individual target behavior, the intervention was too rigid, extremely labour intensive, time consuming and costly (Lovaas, Koegel, Simmons, & Long, 1973).

This led Koegal and the Behavioural Scientists at UCSB to focus on researching a better technique and they developed teaching "Pivotal Responses" (behaviours which were central to wide areas of functioning), resulting in more efficient interventions that produced faster improvements . Teaching Pivotal Responses was found to be successful in generalising behaviours to a variety of areas that had not directly received intervention.

Pivotal Responses:
Pivotal responses are defined as those that, when trained, generally produce large collateral improvements in other non-trained areas. To date, a number of pivotal areas have been identified by research.

1. **Reducing stimulus overselectivity**: Children with Autism have difficulties selecting and focusing on one stimulus while suppressing others. Hence they do not respond properly when multiple stimuli are present. It is often said that they have stimulus overload. In DTL they are taught by drilling to discriminate one stimulus amongst many (e.g., a red card). In PRT they select a toy or object, which becomes the self-discriminated stimulus upon which teaching proceeds.

2. **Promoting Motivation:** In order to speed up learning, it is imperative to ensure that the child is motivated to learn. If the child is allowed to select what he/she is interested in, there is more motivation to respond to the learning cues. In PRT, instead of forcing a learning schedule on the child (a process which may reduce

motivation) the therapist and the child jointly select objects of interest that are motivating to the child. Such motivational procedures, along with teaching children to respond to multiple cues, has been used to teach communication (e.g., expressive and receptive language), self-help (e.g., toilet training), academic (e.g., learning numbers, counting, printing, reading), social (e.g., decreasing disruptive behaviors, improving pragmatics) and recreational skills (e.g., interactive play and joining in school activities).

3. **Promotion of Self-management:** Typically developing children acquire increasing self-regulation and self-reliance as they mature. However, children with autism often do not appear to develop the necessary self-regulating behaviors needed to respond to the social cues that lead to independence. Self-management is a skill that typically developing children learn naturally over time. They eventually learn to self-initiate and to self-reinforce their own appropriate behaviours. Teaching the child with Autism self-management of behaviours allows that child to learn a skill that facilitates using "taught behaviours and knowledge" in other situations, environments and with other people, in the absence of a trainer.

4. **Self-initiations.** Self-initiated interactions, such as initiating play and social interactions, are necessary for optimal development. Generally, social self-initiations are lacking in children with Autism. Teaching them to initiate interactions can result in self-learning, which increases the ability of the child to gain access to knowledge outside of any specific teaching context. For example, teaching a child with autism how to initiate questions in one setting has been shown not only to improve vocabulary but also to generalise self-learning in other settings (L. K. Koegel, Camarata, Valdez-Menchaca, & Koegel, 1998).

5. **Empathy:** Children with Autism tend to lack empathy, and often appear insensitive to the feelings of others. Modeling empathy and promoting self-initiated attempts of the child to respond empathically encourages the development of the child's own emotional awareness.

The goals of providing intervention in pivotal areas are:
1. To teach children with Autism to be responsive to the many learning opportunities and social interactions that occur naturally everyday.
2. To promote self-learning and ultimately self-reliance.
3. To decrease the need for constant vigilance and extensive therapy by intervention providers.
4. To enable the child with Autism to attend full time school and hold their own amongst other children.

The clinic's intervention uses ABA therapy, including DTL when necessary with a focus on pivotal areas, such as: increasing motivation to initiate and respond to complex

social, language, and academic interactions. When these pivotal skills are developed, peripheral features of ASD have been documented to improve in areas such as language, pragmatics, self-help, and in academic areas.

In a PRT naturalistic teaching context, the child may pick up a blue car and his mother may seize the opportunity and prompt him "blue car" and attempt to play interactively with the blue car, rolling it to an fro, getting his attention with eye contact and repeating "blue car". She may get his attention and with an open hand say "give me blue car". When she rolls it to him she may say "LOOK – blue car" and so on… She would attempt to solicit language and reward any reasonable attempt. The reinforcement would be a natural consequence. E.g.' mother's involvement, mutual play, getting the car, getting a big smile, high five, an effusive thank you and a kiss from mum for giving the car. Such contingent reinforcement is more motivating and intrinsically more rewarding.

Pivotal Response Therapy attempts to set a context for improved learning, such that responding is under the control of natural environmental stimuli. Under those conditions, research has shown that children with Autism (and other learning difficulties) demonstrate shorter response delays, a high frequency of appropriate responding and negligible avoidance of learning opportunities.

The ultimate goal of Pivotal Response Therapy is to provide these children with the social and educational proficiency to participate in enriched and meaningful lives. The model uses ABA procedures that are positive, self-reinforcing, and family centered. The model allows for less dependency on therapists, and skills up parents to apply ABA in the everyday natural environment of the child. Every moment that parents and other carers interact with the child, becomes an opportunity to apply Pivotal Response Treatment techniques. This greatly increases the number of effective ABA hours that the child is exposed to and speeds up their learning rates across all areas of development.