EDUCATING CHILDREN WITH NEURODEVELOPMENT DISORDERS: A CASE FOR BEHAVIOURAL APPROACH

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Abstract: *Behaviour modification and Applied Behaviour Analysis (ABA) have emerged as the foremost approaches for tackling neurodevelopment disorders. Despite all empirical proofs, behaviour modification is still criticized as a treatment for neurodevelopment disorders. Its acceptance is only restricted to the limited community of academic and behavioural psychologists and special educators. Multiple criticisms often levied at behaviourist approaches are addressed. A need for further research in the field is emphasised, rather than criticizing the existing structures. This study shall focus on the special students at Swami BrahmanandPratishthan for Special Children in Belapur catering to multiply challenged children, especially those suffering from Autism spectrum disorders.*

Keywords: Applied behaviour analysis, discrete trial teaching, inclusive education, neurodevelopment disorders

Introduction: The last two decades have witnessed a growing awareness regarding a complex puzzle muddling thousands of childhoods. The issue is that of neurodevelopment disorders. The growth and development of the brain and the central nervous system is impaired in the affected child. This damage extends to further impair the child's social interaction, verbal and non-verbal communication, and results in restricted and repetitive behaviour. The victim child is traditionally labelled as a special child (needing special care and attention).

Inclusive education for special children: The rising demand

The debate regarding education for the disabled has been governed by two major schools of thought:

- Special education: The practice of educating students with special needs by focusing on the learners' individual differences and needs. The interventions are designed to assist children achieve a higher level of personal self-sufficiency and success in school and their community, than may be available if the student were only given access to a typical classroom education (Breckenridge, 2001).
- Inclusive education: This approach has gained popularity since the 1980s and advocates schools, which don't distinguish between "general education" and "special education" programs (Stainback, 1984). It is based on the rationale of creating an equitable environment for special learners, both in school and the outside community (Davis, 1989).

There is dearth of extensive research here, but it has been documented that autistic students in inclusive schools are better engaged, exchange higher levels of social support, have bigger friendship networks, and have more developmentally enhanced education goals (Fryxell& Kennedy, 1995).

With respect to India, the NCERT's position paper on 'Education of children with special needs (SEN)' proposes that for years the education system has provided special education and related services to students with SEN and systematically developed a *dual service delivery system* comprising different settings and curricula. But now in the context of the struggle to affirm and guarantee the rights of the disabled, the *common system*, which would bring "all" onto a common platform, is a better option (NCERT P.P., 2006).

Swami BrahmanandPratishthan practices: Behaviourism for inclusive education

Educators need knowledge of empirically validated strategies that will assist them in the challenges of inclusive schooling. Behaviourism proposes that changes in behaviour are an outcome of stimulus-response associations made by the learner (Watson, 1913, p. 169). Direct observable behaviours and actions are worthy of study, rather than internal thoughts, emotions or cognitive processes (Skinner, 1971, p. 55).

This study shall focus on the special students at Swami BrahmanandPratishthan for Special Children in Belapur catering to multiply challenged children, especially those suffering from Autism spectrum disorders. The Brahmanand Centre also approaches

behaviour as learned habits. The Applied Behaviour Analysis (ABA) approach involves assessing and evaluating behaviour, and later introduction of interventions to alter that behaviour. I shall mention six approaches I observed being followed there:

- **The Lovaas Model of Discrete Trial Teaching (DTT):** For the special learners at the Centre, each skill is broken down into small steps, and taught using prompts, which are gradually removed as the steps are mastered (Lovaas, 1987). Repeated opportunities to learn and practice each step in different settings are provided to the child. There is a positive reinforcement for each desired outcome, such as verbal praise or something that is highly motivating to the child.
- **Difference Relationship Model (DIR):** Popularly known as Floor time, the idea is for an adult to help the student broaden his range of comfortable communication by interacting with him at his developmental level. Therapy is often incorporated into play activities, mostly by mimicking the child's behaviour.
- **Antecedent procedures:** This approach used by the teachers emerges from the Lovaas model itself. Desired behaviours are promoted and undesired behaviours are demoted by modifying discriminative stimuli for both. But these are proactive procedures and *address challenging behaviour prior to its occurrence*. A few of the antecedent procedures used at the Brahmanand Centre are:
  - *Priming*: The child is made to preview information that he or she finds difficult, before viewing it with the entire class. Behaviour modification through priming has been found to increase social interaction with classmates (Zanolli, Daggett, & Adams, 1996).
  - *Prompt delivery:* The teachers used to clap as a prompt to the autistic students, as they did not respond to the general instruction routine. This activity has often resulted in significant reduction in teacher prompts over time, suggesting that the students begin to make transitions independently (Rapp, 1987).
  - *Picture schedules*: Pictures are used to draw the attention of autistic students in place of verbal or written instruction. Pictures can be very effective cues, especially while *transitioning* from one activity to another. Research has demonstrated that by using picture schedules, the autistic students follow their activity schedules 95% of the time.
- **Delayed contingencies:** Behaviour reinforcements at the Brahmanand Centre are scheduled continuously in the first few months to build habits. In the later months, the reinforcement is often *delayed and unpredictable* (the behaviour was reinforced after varying number of actions). This creates a high steady rate of responding from the autistic students. There is a *lower probability of behaviour extinction* even when adult supervision is withdrawn (Dunlap and Johnson, 1985).
- **Self management strategies:** Special students are always motivated to manage themselves as a strategy to promote independence in the classroom. It also shifts some behaviour management responsibility from the teacher to the student (L.K. Dunlap, Dunlap, Koegel, &Koegel, 1991), and increases a teacher's ability to focus more on instruction. Self-management involves teaching the autistic student to:
  - Differentiate between appropriate and inappropriate behaviours
  - Evaluate his or her behaviour
  - Monitor behaviour over time
  - Reinforce his or her behaviour when pre-mentioned criteria are met

Research has also shown that for an autistic child, relying on the teacher or on a one-on-one aide brings forth a potential stigma that prevents the child from interacting with his or her peers (Koegel, Harrower, &Koegel, 1999). Since self-management reduces this dependency on adult intervention, the student has an increased opportunity to interact with classmates. For these reasons, our current research literature on tackling neurodevelopment disorders holds self-management as an ideal intervention for children with disabilities participating in fully inclusive classrooms (Reid, 1996).

Peer-mediated interventions: Utilising typical peers to support students with autism has the potential to *reduce the need for continuous one-on-one adult attention*. This allows students with autism to function with "increased autonomy and in a manner that more closely matches that of their typical classmates" (Putnam, 1993).

Peer mediated interventions at the Centre are done through *peer tutoring* in heterogeneous groups. In order to improve academic outcomes, the teachers apply class wise peer tutoring (CWPT), where each special learner is paired with a typical child. It serves the approach of increasing the amount of instructional time and to provide pacing, feedback, immediate error correction, high mastery levels, and more content coverage (Fuchs, Fuchs, Mathes, & Simmons, 1997).

Kamps' and Barbetta's study has examined the effects of CWPT in reading instruction among three students with autism participating in regular education classrooms. The results of reading assessments reveal gains in reading fluency and correct responses to reading comprehension questions (Kamps, Barbetta, Leonard, &Delquadri, 1994).

Other than academic support, there is a focus on improving the *social interaction* skills of students with autism by utilizing peer support channels. The teachers mention that social response of autistic students has increased with peer support, especially when the interaction is promoted by them. The same fact is also validated by available research literature (Odom and Strain, 1986).

Tackling criticisms of a behaviourist approach: Despite numerous successes, approaches modelled on the theory of behaviourism (such as ABA) face staunch criticism and still don't fit well with medical and some educational societies. I shall try to tackle the major criticisms of this approach here:

- *Criticism: The skills gained through a behaviourist approach are not generalized and the child always depends on adult supervision.*

Thoughts: I agree that it can be hard to establish generalization for children with autism. Even then, the ABA approaches based on *self-management* and *delayed contingencies* aim to achieve independence and skill generalization for the child. Considerable success has also been achieved, that can be *empirically verified* (Reid, 1996) (Dunlap and Johnson, 1985).

- *Criticism: Behaviourist approaches look to 'normalize' children in some way.*

Thoughts: Aims of behavioural interventions are never rigid. They are *decided based on multiple perspectives*, that of the child, family and teachers. Behaviours should be the targets for reduction only when worthy alternatives are available for children and when the behaviour in question clearly hampers some aspect of the child's experience of quality of life.

- *Criticism: Behaviourism completely ignores internal mental processes (Skinner, 1971). Any approach based on the same cannot be considered a standard cure for cognitive neurodevelopment disorders.*

Thoughts: Any intervention in education should aim at *making a positive difference*, and not yield to a medical model agenda of cure or recovery. Secondly, the medical practitioners opposing behaviourist interventions here have no alternate standardized treatment available as well. If approaches like ABA improve a suffering child's condition, what is the moral prerogative in rejecting the same?

I do not deny that promises have been made by a few profit-minded individuals regarding ABA curing autism, but that hardly defines the intention of behaviourist interventions in schools.

- *Criticism: Behaviourist interventions are led by adults.*

Thoughts: Along with being adult led, the critics miss the point that behavioural interventions are also *child-centred*and*individualised*. All ABA programmes begin with a thorough evaluation of the child's strengths and weaknesses before deciding on the best implementation pathway. Secondly, adult supervision does more good than harm to students who otherwise might not interact at all. Thirdly, we have seen that behaviourist approaches such as peer tutoring and self-management involve the adult as a mere facilitator of learning.

- *Criticism: The approach relies on extrinsic rewards and the child is forced to learn.*

Thoughts: Intrinsic motivation of a child towards learning is automatically impaired by the neurodevelopment disorders. If an autistic child is motivated to learn further towards a better life, using rewards that motivate him, there seems to be no enforcement involved. The learning so attained by being gradually shaped through reinforcement of successful ways of behaving cannot be neglected (Bolles, 1972) (Barbara & Linda, 2008). New skills, once learned to a fluent level, self-maintain because they lead to success in the child's environment.

Conclusion: Behaviour analysis, as a treatment for neurological disorders, is not lacking in a coherent theoretical basis arising out of behaviourism. It also satisfies the demand for stark empirical outcome

data. This study demonstrates well that apart from fulfilling these criteria, interventions based on behaviourism such as ABA, are also very strong in individualizing treatment. The focus is always on the best outcome for the special child.

Debates regarding acceptance or rejection of behavioural treatment, take the attention away from the real issues haunting individuals suffering from neurodevelopment disorders like autism. There is an urgent need for more controlled comparison group studies and stronger support in public policy. Additional research should be conducted towards clarifying the conditions under which inclusion benefits those with special needs.The domain of newer computer-assisted treatment and training methods should also be explored. Collaborating with numerous education and mental health NGOs working for this cause must be prioritized as well, so that the underprivileged special child also gets to avail of these cost-effective interventions.

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