A Holistic INLM-Based Psychological Case Study of Devansh Patel: Early Identification, Intervention, and Progress in Specific Learning Disability

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Abstract

This case history describes the psychological evaluation and formulation of Devansh Patel, a 5-year-old male who was assessed in December 2020 for delays in the acquisition of academic skills and developing indicators of a particular learning disability. The evaluation was conducted as a response to parental reports of challenges in pre-academic skills, including letter identification, phonemic awareness, and simple understanding of numbers, as well as evident frustration during organized activity. A thorough assessment utilizing developmental history, behavioral observations, and standardized psychometric tests revealed early indicators of a particular learning disorder. Formulation took into account cognitive, linguistic, and psychosocial components that underpinned the presentation. A holistic intervention plan for remedial education, cognitive skills training, and supportive nutraceuticals to support cognitive function and emotional resilience was advised. Early, targeted intervention and parental involvement were stressed for the best academic and socioemotional outcomes. There was notable improvement after the intervention.

Keywords: specific learning disability, early childhood, psychological assessment, remedial education, cognitive interventions, integrative treatment

Identifying Information
* **Client Name:** Devansh Patel
* **Age in 2020:** 5 years old- **Age Today:** 10 years
* **Age at Assessment:** 5 years old
* **Assessment Date:** December 6, 2020 (1) December 6, 2024 (2)
* **Referral Reason:** Parental referral for Learning Disability Assessment
* **Diagnosis Focus:** Specific Learning Disability (SLD)

Introduction

Early identification and intervention are key in helping children with developmental and academic challenges. Devansh Patel, a 5-year-old boy during the time of assessment, was referred for psychological assessment on December 6, 2020, to examine suspected learning issues that were impeding his pre-academic and early academic skill acquisition. His parents noted consistent problems in domains like letter knowledge, phonemic awareness, handwriting fluidity, and the capacity to understand and follow

complicated instructions, even in the presence of appropriate schooling opportunities and environmental stimulation.

Appreciating the period of cognitive and language development as being of utmost importance at this young age, an in-depth assessment was undertaken. The test sought to identify Devansh's underlying strengths and weaknesses in the areas of foundational learning domains such as motor coordination, perceptual processing, auditory perception, cognitive functioning, and receptive and expressive language abilities. The results confirmed the existence of a specific learning disorder with the necessity of a multidisciplinary intervention approach addressing the development of cognitive, linguistic, and motoric skills.

Using the integration of standardized testing, clinical observation, and analysis of developmental history, an integrative learning profile for Devansh was developed to guide individualized educational and therapeutic interventions. The case history will outline the assessment process, results, conceptualization in the Integrated Neuropsychological Learning Model (INLM; Jajal, 2025), intervention used, and progress made.

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Assessment Procedures

To determine Devansh Patel's learning profile, a selection of standardized tests and behavioral measures was administered. The instruments were employed to measure Devansh's cognitive strengths, academic capabilities, emotional functioning, and behavioral reactions, offering a holistic picture of his strengths and needs.

The following assessment tools were used:

Diagnostic Test of Learning Disability - Prasad Psycho: This test was given to assess Devansh's streng-

ths and weaknesses in particular areas of academic functioning, such as reading, writing, and mathematics, and underlying cognitive processes involved in learning.

The findings of this test were essential to comprehend Devansh's strengths and weaknesses academically and served as the basis for his individualized remediation plan.

Behavior Assessment System for Children - 2 (BASC-2): The BASC-2 is a comprehensive system that was intended to measure a broad array of emotional and behavioral disorders in children.

This measure was given in order to help understand Devansh's emotional functioning and his behavioral reactions within different situations, such as externalizing behaviors (e.g., hyperactivity), internalizing behaviors (e.g., anxiety), and adaptive functioning (e.g., social functioning). This evaluation yielded useful insight into how Devansh's emotional and behavioral reactions might impact his academic achievements and helped aid in the crafting of his treatment plan.

Clinical Interview: Devansh's parents were given semi-structured interviews to have an in-depth history of Devansh's developmental history, family history, academic achievement, and any emotion or behavior concerning problems noted in the home.

Behavioral Observations: Devansh's behavior was observed during the assessment sessions to evaluate his involvement, attention, persistence, and response to various tasks.

Results

The findings of the overall evaluation gave a detailed picture of Devansh's academic and intellectual functioning, his emotional and behavioral presentation on the day of the first evaluation. In-depth scores from the Diagnostic Test of Learning Disability - Prasad Psycho and the BASC-2 (Prior to Intervention) are given under **"Findings and Interpretation"** towards the end of this report. Major findings on the first evaluation were the difficulties in:

- **Visual-Spatial Processing:** Difficulties with figure constancy and spatial relations.
- **Expressive Language:** Areas for improvement in syntactical awareness.
- **Auditory Processing:** Challenges in phonemic analysis.
- **Attention and Activity Level:** Elevated hyperactivity reported on the BASC-2.
- **Anxiety:** Clinically significant anxiety reported on the BASC-2.

Diagnostic Impressions

Based on the comprehensive assessment, the following diagnostic impressions are formulated:

- **Primary Diagnosis: Specific Learning Disability (SLD):** The results from the Diagnostic Test of Learning Disability - Prasad Psycho indicated a significant discrepancy between Devansh's cognitive abilities and his performance in specific academic areas, particularly in visual-spatial processing and expressive language. These deficits align with the criteria for a Specific Learning Disability (American Psychiatric Association, 2013).
- **Co-occurring Behavioral and Emotional Considerations:** The BASC-2 scores yielded significant results, such as increased hyperactivity and clinically significant anxiety. These behavioral issues were taken into account in relation to his learning disability since they could greatly impact Devansh's ability to concentrate, process information, and perform academic tasks (Beck, 2011). Increased functional communication scores also indicated possible social interaction difficulties.
- **Importance of Supplements and Diet Control:** Although not measured directly by the diagnostic equipment, the possible role of nutritional support in aiding cognitive function and emotional symptom

management was mentioned. The possible uses of Brahmi (Bacopa monnieri) in aiding cognitive function and reducing anxiety, and Muleti (Glycyrrhiza glabra) in stress reduction, were taken into account as adjunctive supports in the INLM model (Jajal, 2025). Vitamin C was also taken into account for general cognitive health.

Case Conceptualization (Holistic Psychology INLM Format)

Devansh Patel's learning disability is defined in the Integrated Neuropsychological Learning Model (INLM; Jajal, 2025) as an interaction of difficulties along several related dimensions:

Cognitive-Perceptual: Deficits in visual-spatial processing (figure constancy, spatial relations) and auditory processing (phonemic awareness) impact foundational academic skills. Weaknesses in expressive language further hinder his ability to articulate u

Emotional: Higher levels of anxiety are presumed to disrupt cognitive processing, motivation, and academic achievement.

Behavioral: Hyperactivity is a contributor to attention and persistence problems with tasks.

Physical: Although no substantial physical health problems were noted, early delays in fine motor function imply a potential underlying neurological contribution to learning difficulties. The possible role of nutritional factors in promoting efficient neurological function is addressed within the INLM.

Social: High functional communication ratings on the BASC-2 indicate possible social communication challenges, which may indirectly affect learning in group contexts.

Existential: Although not directly assessed at this time, early school difficulties can affect a child's perception of competence and efficacy, making it crucial to develop resilience and a positive learning identity.\

The INLM emphasizes a holistic approach, recognizing that these dimensions are interconnected and influence one another. Therefore, intervention must address not only the specific cognitive deficits but also the emotional, behavioral, and potentially physical and social factors to promote overall well-being and learning. The inclusion of supportive nutraceuticals within this framework aims to optimize the neurobiological substrate for learning and emotional regulation.

Treatment Recommendations (Based on INLM)

Following the findings of the assessment and case conceptualization within the INLM framework, the following multi-faceted treatment plan was prescribed for Devansh Patel:

- **Neuropsychological Intervention Model (INLM)**: The intervention plan was developed to incorporate cognitive-perceptual remediation with treatment strategies for emotional, behavioral, and social aspects based on the comprehensive principles of the INLM (Jajal, 2025).Targeted Cognitive Interventions:
  - **Remedial Education:** Individualized teaching concentrating on building visual-spatial abilities, phonological recognition, and expressive language. Using multisensory strategies to involve multiple learning modalities.
  - **Cognitive Rehabilitation Therapy (CRT):** Activities designed to improve attention, working memory, and executive functions, which underpin academic learning.
- **Emotional and Behavioral Interventions:**

- ◦ **Cognitive Behavioral Therapy (CBT):** To address anxiety by identifying and modifying negative thought patterns and developing coping strategies (Beck, 2011). Strategies to manage hyperactivity through behavioral techniques and promoting self-regulation.
- ◦ **Emotion-Focused Therapy (EFT):** To enhance Devansh's understanding and regulation of his emotions, fostering emotional resilience (Greenberg, 2011).
- • **Integrative Approaches (Nutritional Support):**
- ◦ Consideration of incorporating Brahmi (Bacopa monnieri) under medical guidance for its potential cognitive-enhancing and anxiolytic effects (Jajal, 2025).
- ◦ Consideration of Muleti (Glycyrrhiza glabra) under medical guidance for its adaptogenic properties in managing stress and anxiety (Jajal, 2025).
- ◦ Ensuring adequate intake of Vitamin C through diet or supplementation for its role in overall cognitive health.
- • **Parental Guidance and Support:** Psychoeducation for parents on learning disabilities, anxiety, and effective strategies for supporting Devansh at home. Collaboration with the school to ensure a consistent and supportive learning environment.
- • **Regular Monitoring and Evaluation:** Ongoing assessment of Devansh's academic progress, emotional well-being, and behavioral functioning to adjust the intervention plan as needed.

Findings and Interpretation (Post-Intervention)

Following a period of consistent and integrated intervention, a follow-up assessment was conducted. The scores on the Diagnostic Test of Learning Disability - Prasad Psycho and the BASC-2 (After Intervention) indicate significant progress across multiple domains:

LD Test Scores Before and After Intervention

Area	Before Intervention	After Intervention	Interpretation
Eye-Hand Coordination (EHC)	3/10	9/10	Significant improvement in motor sequencing and writing fluidity.
Figure Ground (FG)	5/10	10/10	Strong improvement in attention control in filtering visual information.
Figure Constancy (FC)	4/10	9/10	Excellent ability to recognize shapes, symbols, and figures in altered positions.
Position-in-Space (PS)	3/10	7.5/10	Improved spatial awareness with minor difficulty in positional vocabulary comprehension.
Spatial Relations (SR)	4/10	6.5/10	Effective spatial awareness but some remaining challenges in processing abstract spatial information.

Auditory Perception (AP)	2/10	7.5/10	Good phonemic analysis and verbal encoding, with room for enhancement in auditory sequencing.
Cognitive Ability (CA)	4/10	9/10	Strong improvement in concept formation, categorization, and memory retrieval.
Memory (M)	3/10	9/10	Excellent recall and retrieval of learned information.
Receptive Language (RL)	2/10	9.5/10	High capacity for processing verbal and visual information.
Expressive Language (EL)	3/10	6/10	Improvement in syntactical awareness and meta-linguistic structures.

BASC-2 Results Before and After Intervention

Domain	Before Intervention	After Intervention	Interpretation
Externalizing Problems			
Hyperactivity	27	14	Significant improvement in managing restlessness, impulsivity, and staying still.
Aggression	21	19	Moderate improvement with no significant behavioral issues.
Conduct Problems	12	13	No significant change.
Internalizing Problems			
Anxiety	36	24	Significant reduction in anxiety symptoms.
Depression	21	19	Minor improvement in depressive symptoms.
Somatization	21	22	No significant change.
Functional Communication	28	22	Improvement in understanding and expressing social cues.
School Problems Index			
Attention Problems	14	10	Improvement in attention-related issues.
Learning Problems	*21*	*20*	Minor improvement in academic learning

			problems (raw score, interpretation based on Prasad Psycho).
Atypicality	28	18	Significant reduction in unusual or maladaptive behaviors.
Withdrawal	24	22	Minor improvement in social withdrawal behavior.
Adaptive Skills			
Adaptability	20	20	No significant change.
Leadership	21	21	No significant change.
Activities of Daily Living	21	21	No significant change.
Social Skills	27	24	Mild improvement in social skills, with greater social interactions.
Study Skills	*23*	*22*	Minor improvement in study-related skills (raw score, interpretation based on Prasad Psycho).

Note: Learning Problems and Study Skills are mentioned here but are mainly outlined in the Prasad Psycho assessment. The scores given are raw scores for examples only; interpretation depends on the standardized norms of the Prasad Psycho.

Conclusion and Recommendations

Devansh Patel has exhibited noteworthy and desirable gains in numerous aspects of cognition and behavior after an intervention period that was individualized and comprehensive in nature and guided by the INLM framework. Most noteworthy among the noted gains were in the areas of visual-motor coordination, visual-spatial functioning, auditory perception, cognition, memory, receptive language, and diminished hyperactivity and anxiety. Expressive language function has also improved, although further support in this area is indicated.

Although academic learning difficulties and study skills were minimally improved, these remain an area of focus for continued intervention. Decreases in atypical behaviors and increased functional communication indicate increased social-emotional functioning.

For further advancement and to solidify the achievements so far, the following are recommended:

Ongoing Targeted Interventions: Ongoing individualized remedial education in expressive language skills and continued challenge of ongoing issues in abstract spatial processing.

Ongoing Behavioral Support: Continue interventions to support attention, self-regulation, and social communication abilities, possibly with ongoing CBT or social skills training.

Nutritional Implications: Continue to reinforce a healthy diet and discuss the long-term use of Brahmi and Muleti with medical supervision, keeping their effects on mental processes and levels of anxiety under observation.

Regular Monitoring and Collaboration: Ongoing regular monitoring of Devansh's academic, emotional, and behavioral development through continued assessments and communication with his parents and school. Revise the intervention plan as necessary to meet changing needs and maintain continued progress.

Strengths Focus: Continue to develop Devansh's strengths, including his enhanced memory and social skills, to promote a positive self-concept and motivation for learning.The holistic and integrated approach to intervention, guided by the INLM, has proven effective in addressing Devansh's multifaceted learning profile.

Continued collaboration between the clinic, family, and school will be crucial in supporting his ongoing development and academic success.

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