



Research Paper

Academic Therapy for Specific Learning Disability: A Case Study

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Review of Literature (embedded in Introduction)

1. Prevalence of Learning Disabilities in India

- Studies estimate LD prevalence among school-going children in India at **10–12%** (Kumar & Singh, 2017), with other research citing even higher rates of **13–15%** (Mogasale et al., 2012; Kumari & Barkiya, 2016).
- Sawhney and Bansal (2014) found LD to be more prevalent among boys.
- A systematic review and meta-analysis by **Scaria et al. (2023)** estimated the overall pooled prevalence of Specific Learning Disorders (SLD) in India at approximately **8%** among children aged 6–19 years (95% CI: 4–11%). (*Highlighted as a recent addition*)

2. Definitional and Classification Debate

- Kulkarni et al. (2001) noted considerable debate regarding the definition, classification, diagnostic criteria, assessment practices, available resources, and policies for individuals with LD in India — issues that remain unresolved.
- There is no national census on learning disabilities in India, making it difficult to estimate the scope of the problem reliably.

3. Intervention Approaches

- **Rollins, S.P. (2014)** – The *Acceleration Program Model* forms the basis of the SMART model used in this study. This model helps students with academic challenges succeed in mainstream classrooms, differing from traditional remedial instruction that focuses on weaknesses.
- **Marzano (2004)** – Research on prior knowledge shows it significantly impacts student performance; a student at the 50th percentile can shift to the 25th or 75th percentile depending on existing knowledge.
- **Malhotra & Kaur (2022/2023)** – Demonstrated the effectiveness of cognitive strategy intervention in improving scholastic learning among students with learning difficulties. (*Highlighted as a recent addition*)

4. Behaviour and Academic Impact

- **Sridevi et al. (2015)** studied learning disability and behaviour problems among school-going children, noting associations with behavioural issues like hyperactivity and aggression, with gender differences.
- A study from Hyderabad and Kerala (referenced in Conclusions) found that 19% of 327 children aged 6–14 had LDs, associated with higher incidences of behavioural problems.

5. Early Identification and Intervention

- Research by **Padhye et al. (2016)**, **Kishore (2011)**, and **Karande et al. (2013)** highlights a high prevalence of special education needs in classrooms, emphasising that delayed recognition negatively affects individuals and society.

Reviewer's Note

The paper's reviewer (**Smita Desai**) has flagged that the Introduction and Review of Literature need to be **split into two separate sections**, and that **more current literature** is required. Two highlighted passages (Scaria et al. and Malhotra & Kaur) appear to have been added as suggested updates but are not yet fully integrated into the narrative structure.

Abstract

This case study investigates the effectiveness of an evidence-based academic intervention program for a student diagnosed with Specific Learning Disabilities (SLD). Despite possessing average to above-average cognitive abilities, the student faced significant challenges in cognitive processing and overall academic performance. Research indicates that individuals with SLD often experience diminished academic and occupational outcomes, alongside increased interpersonal and intrapersonal difficulties. Given the limited empirical data on intervention strategies for SLD in India, this study analyses the impact of a structured, individualised intervention on the academic outcomes of one such student.

Method: *A customised intervention program was designed following a comprehensive psychoeducational assessment. The program included specific classroom accommodations, detailed academic evaluations, documented intervention outcomes, challenges encountered during implementation, and targeted recommendations to support continued academic success.*

Results: *The academic intervention program yielded notable positive outcomes, with significant improvements observed across multiple academic disciplines.*

Key Words: *Specific Learning Disability, Academic Intervention, Academic Outcomes*

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I. Introduction

Students with Learning Disabilities (LD) face significant challenges in their learning and frequently struggle to meet standard academic expectations, even when they possess adequate cognitive abilities. Consequently, early identification and appropriate intervention programs are crucial for managing their academic progress. In India, studies estimate that the prevalence of LD among school-going children ranges from approximately 10–12% (Kumar & Singh, 2017), with some research indicating even higher rates of 13–15% (Mogasale et al., 2012; Kumari & Barkiya, 2016). Sawhney and Bansal (2014) additionally found that LD is more prevalent among boys.

Despite this high prevalence, there remains considerable debate about the definition and classification of learning disabilities, the diagnostic criteria, assessment practices for identification, the resources available, and the policies governing education for these individuals (Kulkarni et al., 2001). Moreover, the absence of a national census on learning disabilities in India means that a reliable estimate of the scope of the problem is yet to be established. Findings from local research studies, however, consistently underscore the critical importance of early identification and intervention in mitigating the significant impact of LD on both individuals and society.

This case study focuses on the impact of an individualised academic intervention program for a student with learning disabilities — referred to as Student A — at Drishti, a tertiary referral centre in Mumbai specialising in psychodiagnostic assessments and therapy.

II. Review of Literature

2.1 Prevalence of Learning Disabilities

Learning disabilities represent one of the most commonly reported developmental challenges among school-going children in India. Kumar and Singh (2017) identified LD prevalence at approximately 10–12%, while Mogasale et al. (2012) and Kumari and Barkiya (2016) reported higher estimates of 13–15%. A more recent systematic review and meta-analysis by Scaria et al. (2022) estimated the pooled prevalence of Specific Learning Disorders (SLD) in India at approximately 8% among children aged 6–19 years (95% CI: 4–11%), reinforcing the need for systematic identification and early intervention. Gender differences have also been noted; Sawhney and Bansal (2014) found LD to be more prevalent among boys in their sample.

A study involving 327 school-going children aged 6–14 years in Warangal found that 19% of students had learning disabilities, which were associated with elevated incidences of behavioural problems, including hyperactivity and aggression (Sridevi et al., 2015). These findings highlight the co-occurrence of LD with behavioural and emotional difficulties, further complicating academic support.

2.2 Challenges in Identification and Classification

Despite growing awareness, the field continues to grapple with definitional inconsistencies and unresolved debates around the classification of LD. Kulkarni et al. (2001) highlighted the lack of standardised diagnostic criteria, inconsistent assessment practices, insufficient resources, and policy gaps in India. In the absence of a national census on learning disabilities, the true scope of the problem remains difficult to quantify. Research by Karande et al. (2013) and Padhye et al. (2016) further highlights the high prevalence of special educational needs in Indian classrooms, reinforcing the urgency of developing culturally appropriate and empirically validated tools for identification.

2.3 Intervention Approaches and Their Effectiveness

Traditional tutoring and remedial instruction often focus primarily on students' weaknesses before allowing them to progress, a strategy that can result in minimal academic advancement and may negatively affect students' attitudes toward learning (Rollins, 2014). Research has consistently demonstrated that a student's prior knowledge of a subject significantly influences their academic performance. Marzano (2004) found that a student at the 50th percentile may shift to the 25th or 75th percentile depending on their existing background knowledge, underscoring the importance of activating and building foundational understanding.

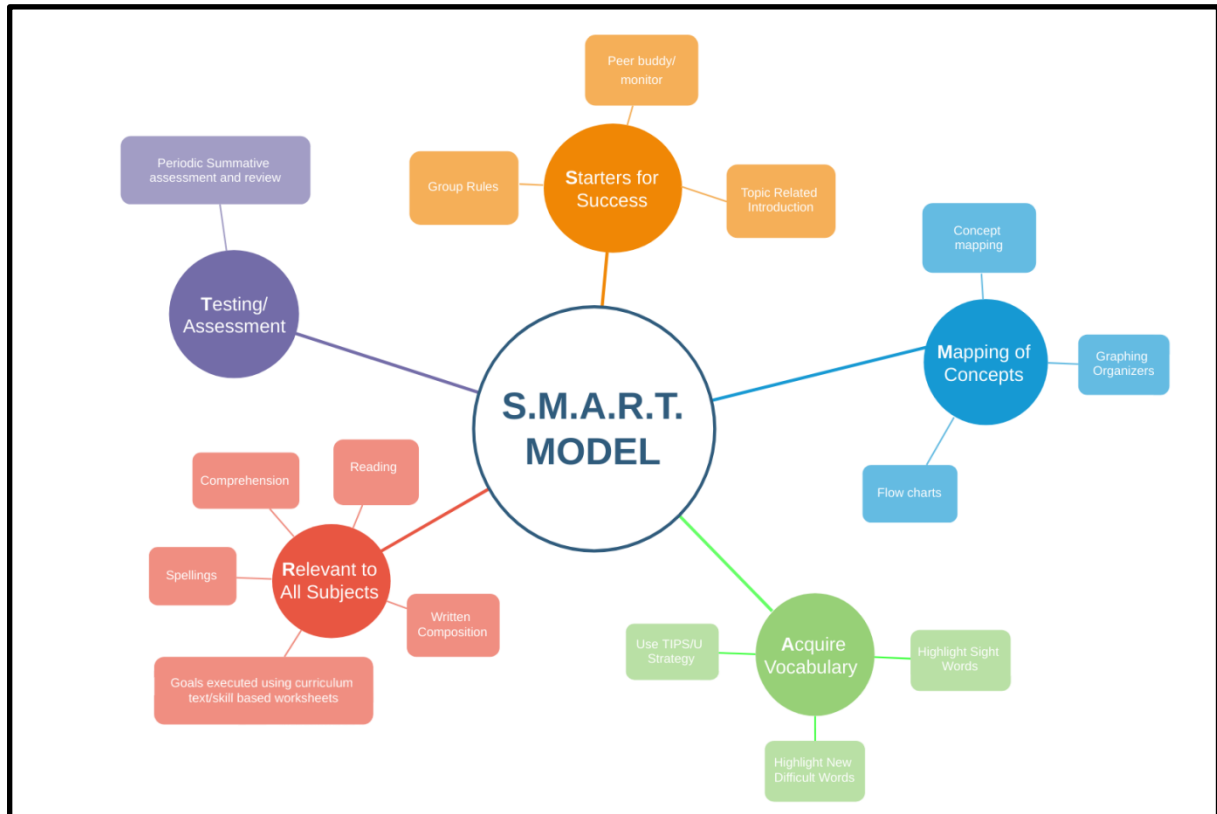
In contrast, acceleration-based and strategy-focused approaches have shown greater promise. Malhotra and Kaur (2022) demonstrated the effectiveness of cognitive strategy intervention in improving scholastic learning among students with learning difficulties, particularly when interventions were tailored to individual profiles and aligned with curriculum requirements. These findings support the development of customised intervention frameworks that simultaneously address skill gaps and prepare students to engage with ongoing classroom content — a key principle underlying the SMART model used in the present study.

2.4 The SMART Model and the Acceleration Program

The SMART model developed at Drishti is based on the Acceleration Program Model proposed by Rollins (2014). The Acceleration Model aims to help students facing academic challenges succeed in their current classrooms. Unlike conventional remedial approaches, this model enables students to engage with current curriculum content while simultaneously addressing foundational skill gaps.

The SMART model employs a child-centred approach that addresses both remedial and forward-looking academic needs. By allowing students to begin engaging with upcoming syllabus content in advance, the program equips them with the conceptual framework needed to connect with new information once it is introduced in the classroom. The model also stimulates students' thought processes, fosters inferential abilities, introduces new vocabulary and concepts, clarifies learning goals, and helps students build academic confidence. Critically, it employs a customised approach that aligns with the local curriculum and syllabus, making it contextually relevant to students in the Indian educational system.

A graphic representation of the SMART model is presented in Figure 1.



III. Case Study

3.1 Background Information

This study investigates the outcomes of an academic intervention program conducted over two academic terms, spanning a total of 10 months. Student A was selected for the study because he exemplifies the positive effects of an evidence-based academic intervention on a student with learning disabilities who struggles with reading, writing, and mathematics — challenges that significantly impacted his performance across all subjects.

Student A is a 15.5-year-old male attending Grade 10, with a normal developmental history. Evaluations for speech, hearing, and vision were all reported to be within the normal range. He had neither skipped nor repeated any grades; however, he had consistently experienced low academic performance since Grade 5. His Grade 8 report showed failures in English, Mathematics, Science, and French, and his Grade 9 report indicated poor performance with failing scores in Mathematics and Science. At the end of Grade 9, the school referred him for a psychoeducational assessment at Drishti. Before this assessment, he had received only subject-based tutoring.

In addition to his schoolwork, Student A received external support exclusively through the SMART model, without any supplementary tutoring. This setup allowed for an assessment of the impact of the program free from confounding variables.

3.2 Diagnostic Assessment

A comprehensive psychoeducational assessment battery was administered to Student A at Drishti. Standardised and curriculum-based diagnostic tests were conducted to measure his current level of psychoeducational functioning, as follows:

1. Malin's Intelligence Scale for Indian Children (MISIC): Revealed deficits in functional remote memory and arithmetic reasoning on the Verbal scale, with strengths in verbal comprehension and abstract reasoning. Performance scale scores were low, particularly in spatial organisation, visual problem-solving, and visual memory. The Verbal IQ was average, but the Performance IQ was below average, rendering the Global IQ score invalid. A subsequent Binet-Kamat Intelligence Test estimated intellectual functioning at 1.11 years below chronological age.
2. Woodcock-Johnson III Tests of Achievement Form C/Brief Battery (WJ-III/C): Significant deficits in reading comprehension and written expression; mild deficits in mathematical skills. Relative strengths were observed in word reading and spelling.

3. Curriculum-Based Assessment (CBA) — English: Instructional level in reading comprehension and written expression was at Grade 3. Curriculum-Based Assessment (CBA) — Math: Student A was functioning at a Grade 4 level across curricular mathematics.
4. Beery-Buktenica Developmental Test of Visual-Motor Integration (BVMI): Indicated difficulties in visual-motor integration.
5. Test of Auditory-Perceptual Skills — Upper Level (TAPS-UL): Revealed deficits in auditory perceptual skills.
6. Attention Deficit/Hyperactivity Disorder Test (ADHDT): Indicated mild levels of ADHD, primarily inattention, based on parents' and teachers' observations and reports.

Diagnostic Findings:

Student A was diagnosed with Specific Learning Disabilities in reading, written language, and mathematics. Additionally, he exhibited challenges in auditory and visual perceptual skills and in information processing, particularly relating to memory. A screening for Attention Deficit Hyperactivity Disorder (ADHD), conducted in accordance with the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), indicated that he meets the diagnostic criteria for ADHD, primarily displaying symptoms of inattention at mild severity.

Recommendations from the Assessment Report:

Recommendations included classroom modifications, exam accommodations, and enrollment in an intensive academic intervention program to improve core academic skills and address challenges associated with inattention. Classroom modifications included seating near the teacher, pairing with a peer buddy, and provision of extra time for written assignments. Exam accommodations included extra writing time, a scribe, an invigilator as a reader, and subject substitutions as permitted.

4. Academic Intervention Program: IEP and SMART Model

Following recommendations from the assessment report and Board guidelines, Student A opted to drop Mathematics and Science for the Grade 10 benchmark examinations. A focused approach was adopted for English and Social Studies (History, Geography, Political Science, and Economics), along with Information and Communication Technology (ICT), using the SMART model. The subjects of Hindi language and Art (Painting) were addressed through home tutoring.

The intervention program was structured across three phases:

Phase I: Summer Remedial Education Program

Student A completed a 20-hour summer remedial education program before Term 1 of the main intervention. An Individualised Education Plan (IEP) was created to address foundational gaps in reading and written language skills. This phase provided essential scaffolding for the structured intervention that followed.

Phase II: Term 1 — IEP Parts I and II

Term 1 — IEP Part I

Part I of the IEP targeted key areas: grammar, vocabulary, reading comprehension, written composition, creative expression, and test-taking skills. Goals included reviewing grammar, using appropriate vocabulary, answering comprehension questions, composing structured written pieces, developing descriptive writing, and employing effective test preparation techniques. Time management skills were also emphasised. All objectives followed the SMART model, beginning with 'Success Starters' — hands-on activities related to curriculum content that fostered student engagement and real-life connections. Three special educators coordinated their efforts across subjects under a unified IEP.

Term 1 — IEP Part II

Part II focused on enhancing reading and writing fluency. As Student A demonstrated increased confidence with foundational concepts, the team introduced new content and information not yet covered in the classroom, sparking greater interest and motivation. The program was scheduled for 10 hours over 5 days per week during Term 1.

Phase III: Term 2 — IEP Parts I and II

Term 2 — IEP Part I

The three core skill areas for the Term 2 IEP were reading comprehension, written composition, and test-taking skills. Goals included using contextual clues to determine word meanings, understanding descriptive language, employing varied sentence structures, writing complete compositions, and applying test preparation techniques.

Evaluations were conducted more frequently, and feedback was provided to both the student and educators to allow for ongoing adjustments.

Term 2 — IEP Part II

Intensive intervention focused on written composition and study skills. Key goals included creating structured outlines, writing complete compositions, and explaining concepts with relevant detail within set time limits. Study skills were expanded to include time management, enabling Student A to plan and execute tasks independently. The program was increased to 15 hours over five days per week during Term 2.

Strategies from the Acceleration Model were employed throughout to achieve IEP goals. The TIPS/U methodology (Term, Information, Picture, and Sentence/Usage) supported vocabulary and grammar development. The 6W+H method (what, who, when, where, which, why, and how) facilitated reading comprehension and guided written responses. Keyword flashcards and visual aids reinforced memory, and the 'Chunking' method helped the student organise and recall information efficiently.

Additional strategies included SQ4R (Survey, Question, Read, Recite, wRite, Review) during Term 1, and Strategies for Organisational Skills (SOS) along with a structured 5-day exam preparation plan during Term 2. The C.O.P.S. strategy (Capitalisation, Organisation, Punctuation, Spelling) was used for editing written work. Mock exams were practised in both timed and untimed settings, and Word Attack Skills were revisited to aid in decoding challenging vocabulary.

IV. Intervention Program Outcomes

5.1 IEP Progress: Phase I — Summer Remedial Education

Table 1 presents the IEP progress data from the Summer RE Program.

Table 1: IEP Progress Report — Summer Remedial Education Program

Area	Subject Application	Percentage Achieved on IEP
Vocabulary	English	70%
Reading Comprehension	English	80%
Written Composition	English	70%
Memory Skills	Study Skills	50%
Average		68%

Student A accurately achieved 70% or more of his IEP goals in three of the four areas. However, he struggled with recall strategies and exhibited a fear of failure, which occasionally hindered his engagement. In response, the team continued to focus on keyword memorisation strategies and implemented targeted approaches to build self-esteem in the subsequent term.

5.2 IEP Progress: Phase II — Term 1 (SMART Model)

Table 2 summarises IEP achievement data for Term 1.

Table 2: IEP Progress Report — Term 1 (Parts A & B), SMART Model

Core Skill Area	Subject Application	Percentage Achieved on IEP
Grammar	English	80%
Vocabulary	English, SS, ICT	70%
Reading Comprehension	English, SS, ICT	73%
Written Composition	English, SS, ICT	70%

Creative Expression	English	50%
Time Management	All Subjects	70%
Memory Skills	All Subjects	70%
Test-Taking Skills	All Subjects	60%
Average		68%

Student A maintained consistent goal attainment despite the expansion of the IEP to include additional core skill areas. He found creative expression and test-taking skills — particularly identifying and applying keywords — more challenging. These areas were consequently carried forward as priority objectives into the Term 2 IEP.

5.3 IEP Progress: Phase III — Term 2 (SMART Model)

Table 3 presents Term 2 IEP progress data.

Table 3: IEP Progress Report — Term 2 (Parts A & B), SMART Model

Core Skill Area	Subject Application	Percentage Achieved on IEP
Reading Comprehension	English, SS, ICT	80%
Written Composition	English, SS, ICT	72%
Time Management	All Subjects	80%
Test-Taking Skills	All Subjects	60%
Average		73%

The final term demonstrated an improvement in overall IEP goal attainment compared to Term 1, with an average of 73%. Student A showed particular enthusiasm for Economics and English, where the use of real-life examples enhanced his engagement and performance. However, he continued to experience performance anxiety in History, Geography, and Political Science, subjects that relied more heavily on content memorisation. Challenges with concept mapping and careful reading of questions in written assignments were also identified as areas requiring ongoing support.

5.4 Curricular Performance Using the SMART Model

Table 4 details Student A's performance in subject-based school evaluations conducted throughout the intervention period. Following the commencement of the SMART model-based intervention, there were no instances of academic failure in any subject-based evaluation.

Table 4: Curricular Progress Report — Subject-wise Evaluation Scores

Evaluation	English	Social Studies	ICT	Overall %
School Formative Assessment 1	15/30	24/30	26/30	72%
School Midterm Exam	44/80	47/80	21/40	56%
School Formative Assessment 2	18/30	23/30	N/A*	68%
School Prelim Exam	52/80	55/80	N/A*	67%
Programme Summative 1	58/80	44/80	31/40	67%
Programme Summative 2	52/80	56.5/80	31.5/40	70%

Final CBSE Board Exam	88/100	76/100	85/100	83%
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* N/A: Evaluations not conducted for this subject in this cycle.

Initially, Formative assessments yielded higher scores, as the syllabus coverage was limited. However, a clear upward trend was evident over time in all subject areas across evaluations covered by the intervention program, demonstrating the cumulative benefit of the SMART model. This also included school-based evaluations. The highest scores were seen in the final evaluations of the Board examinations.

V. Conclusions

The quantitative and qualitative data collected over the 10 months of this academic intervention program demonstrate that the SMART model was an effective, efficient, and beneficial intervention for a student with learning disabilities enrolled in a full-time mainstream classroom. Throughout this period, Student A made significant progress in academic performance without any change in school or grade placement, and he did not experience academic failure in any subject after the intervention program began.

There is a pressing need for longitudinal research on intervention programs for school-going students with special education needs in India. Student A's case underscores the importance of integrating structured programs such as the SMART model and the Acceleration Program into educational systems for children facing classroom challenges. Critically, these programs must go beyond remediation — they must be dynamic, addressing students' past, present, and future needs while fostering self-advocacy and disability awareness.

Early identification and intervention for students with special education needs is paramount. Research by Padhye et al. (2016), Kishore (2011), and Karande et al. (2013) highlights the high prevalence of such needs in Indian classrooms. Delayed recognition can have lasting negative consequences for individuals and society alike. Student A's case illustrates that early intervention support could have mitigated long-term challenges such as diminished self-esteem and academic disengagement. Each student with LD requires a personalised intervention plan, ideally implemented at the earliest possible stage.

The intervention program described in this study seeks to improve academic performance by addressing the students' prior knowledge, current abilities, and future learning needs. Through this approach, participants may: (a) acquire essential skills for higher education or employment, (b) compete more confidently with their peers, and (c) engage more meaningfully with their learning environment. To address the broader needs of young adults with LD, intervention programs must also incorporate essential life skills such as problem-solving and effective communication.

Student A's case study illustrates how a carefully designed, evidence-based intervention can positively transform the academic and personal trajectories of students with learning disabilities. The success of such programs, however, requires all stakeholders — educators, families, and institutions — to remain open-minded, patient, and committed to the long-term well-being of each student.

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