Second Language Acquisition in an Adult with Down Syndrome: A Case Study with Implications for ELT

Garima Bhayana[1] & Sneh Lata Sharma[2]

Abstract

This case study explores the acquisition of English as a Second Language (ESL) in a 23-year-old person with Down syndrome. The study aims to evaluate differentiated ways that are effective in language training. Additionally, the paper attempts to specify challenges involved in language learning for individuals with intellectual disabilities. The paper is also strengthened with insights from several SLA theories. The study investigates how social interaction and inductive instruction contribute to language development in this particular case. A qualitative case study methodology was employed over 12 weeks. Data was collected through minute observations. Some communications with the learner and informal assessments have been recorded as videos. A few recurring patterns in learning behaviour and application were thematically observed. Findings reveal that the learner benefited significantly from practical input, repetition and inductive environments. Progress was most evident in receptive language and vocabulary retention. However, notable challenges in syntactic complexity and expressive fluency were observed, too. Personal relevance of certain words played a crucial role in vocabulary retention.

Keywords: Down syndrome; ESL; SLA; inclusive education; special needs learners

INTRODUCTION

Individuals with Down syndrome (DS) face unique linguistic, cognitive and socio-emotional challenges. Down syndrome often involves distinct profiles in language development, including delays in expressive language, syntactic processing difficulties, and deficits in working memory (Chapman & Hesketh, 2000; Kumin, 2006). While speech therapy has enhanced L1 acquisition for children with DS, the question of how such individuals acquire an additional language like English has received minimal scholarly attention.

Existing SLA theories, including Krashen's Input Hypothesis (1982), Vygotsky's Sociocultural Theory (1978), and Ellis's (2004) work on individual differences, provide valuable frameworks for understanding how language is acquired. The intersection of disability and language learning remains a largely peripheral concern in ELT scholarship, despite calls for more inclusive pedagogies (Florian & Black-Hawkins, 2011).

This paper addresses this critical gap by presenting a case study of a 23-year-old adult with Down syndrome learning English as a second language.

Here is a video that shows how the subject of this case study responds to an ELT method applied in a contextual setting:

https://drive.google.com/file/d/12RhXADTM3oDyYTecKiZfyJ6eNC_FFd_K/view?usp=sharing

The research aims to explore not only how this individual acquires English over time, but also what pedagogical and emotional factors support or hinder the learning process. By situating this case within the broader discourse of inclusive education and SLA theory, the study seeks to contribute to the limited but growing body of literature on ESL acquisition in neurodiverse populations. Furthermore, it offers practical insights for ELT professionals seeking to create accessible, differentiated learning environments that respect the diverse needs of all learners.

For comparison, here is a video of the subject's English language communication wherein he is speaking one phrase at a time. https://drive.google.com/file/d/1HzfiS4oofrwlqluoCPrUBi1P7rORrYQR/view?usp=sharing The video also shows the pronunciation challenges he faced before he underwent focused training during the tenure of the 3-month-long case study.

[1] Chaudhary Bansi Lal University, Bhiwani. garimabhayana.gb@gmail.com
[2] Chaudhary Bansi Lal University, Bhiwani. sneh.english@cblu.ac.in

RESEARCH QUESTIONS

The present study is guided by two central research questions that seek to illuminate the unique processes and conditions under which a young adult with Down syndrome acquires English as a second language. These questions are designed to engage with both theoretical and practical concerns in the fields of second language acquisition (SLA), inclusive education, and English Language Teaching (ELT):

- How does a young adult with Down syndrome approach the learning of English as a second language?
- What strategies or learning environments contribute most effectively to successful English language acquisition in this context?

This study positions the learner not as a deviation from the norm but as a subject whose language learning journey can illuminate the broader capacities and constraints of human language acquisition.

The first question seeks to explore the internal and external processes that shape SLA in an individual with Down syndrome. Given that individuals with DS often present with specific language profiles such as relative strengths in social communication and vocabulary, and weaknesses in morphosyntax, verbal memory, and phonological processing (Chapman & Hesketh, 2000; Kumin, 2006), understanding how these traits interact with the demands of acquiring a second language is essential. How does the learner process, store, and retrieve new linguistic input? What role does metalinguistic awareness play, if any? How does motivation, routine, or personal relevance impact learning over time? These are sub-questions that further enrich the primary inquiry.

The second question shifts attention to the pedagogical and environmental factors that either enable or constrain successful language development. Drawing on Vygotsky's (1978) sociocultural theory, which emphasises the mediating role of interaction and scaffolding, and Krashen's (1982) theory of comprehensible input, this question investigates the design of the learning environment: What kinds of instruction, materials, and interpersonal dynamics are most effective? Does multimodal instruction using visual, auditory, and kinesthetic stimuli enhance retention and engagement? How does the affective environment (e.g., patience, encouragement, low anxiety) influence participation and learning outcomes?

The goal is not only to understand how one individual with Down syndrome learns English, but also to challenge and expand existing conceptualisations of what it means to be a language learner in a diverse, inclusive world. This research aspires to inform more equitable and differentiated pedagogical approaches within the ELT profession and contribute to the ongoing conversation about linguistic justice and accessibility in education.

LITERATURE REVIEW

This literature review critically synthesizes key Second Language Acquisition (SLA) theories through the lens of inclusive language education and neurodevelopmental diversity, particularly in relation to learners with Down syndrome. Krashen's Input Hypothesis underscores the role of comprehensible input and the affective filter, highlighting how emotionally supportive, low-stress environments common in special education can facilitate language acquisition for individuals with DS, who benefit from structured, context-rich, and repetitive input. Vygotsky's Sociocultural Theory shifts the focus to the social dimension of learning. It expounds on the Zone of Proximal Development (ZPD) and the importance of scaffolding through guided interaction. This is a method well-suited to learners with DS who often thrive in collaborative and contextual meaning understanding. This approach is in lines with strength-based pedagogy by recognizing the communicative potential of the learners. With social motivation such learners show better results in terms of retention as well as applicability of language. Chomsky's Universal Grammar is less applicable in this context due to its assumptions about cognitive uniformity. SLA research on individual differences advanced by Ellis and Dörnyei, on the other hand, offers a more helpful understanding in this particular case study. Learners with DS present unique cognitive and affective profiles such as strong visual memory and social drive. They face challenges with syntax and phonological memory, which necessitate tailored and learner-centered approaches. These frameworks encourage inclusive, responsive ESL instruction so that neurodiversity can become a normalised part of human language learning.

Learners with DS often struggle with articulatory precision, morphosyntactic structures and sentence processing due to verbal working memory deficits and slower cognitive processing. Kumin (2006) emphasizes the importance of early multisensory language exposure. Rondal and Edwards (1997) state that language acquisition is slow. Laws and Bishop (2003) highlight a gap between receptive and expressive skills. Recent studies, such as Van Buren et al. (2016) and Klopfer and O'Donnell (2020) demonstrate that inclusive ESL instruction featuring small-group settings, universal design for learning (UDL), assistive technologies, and differentiated instruction can support students with developmental disabilities. However, the research does not specifically address adults with DS or SLA outcomes. The persistent lack of adult-focused SLA studies for individuals with DS signals a need for research tailored to their learning graphs. This study addresses that gap by examining the ESL learning experience of a 23-year-old adult with Down syndrome in an inclusive setting. The paper draws from both theory and applied practice to contribute to insights on more inclusive and effective English language teaching.

METHODOLOGY

This case study focuses on Gaurav who is a 23 years old male with Down syndrome. He is a resident of Hisar city in the Haryana state of India. His first language is Hindi. He has been exposed to English informally through family communication and digital media. Gaurav has moderate intellectual disability. He has delayed speech and clarity in articulation. He demonstrates a keen interest in language. He is socially active and amiable. He is enthusiastic for communicating in English, particularly with his sister.

The purpose of this study is to observe and understand how Gaurav naturally absorbs, imitates, and applies English vocabulary from his surroundings. His mother is a special educator who frequently uses English in routine interactions. This contributes to a language rich atmosphere. In addition, Gaurav independently searches for videos on YouTube for which he tries to write down spellings of video titles he wishes to watch later. He displays a pattern of mimicking words and expressions from videos. His engagement with these sources provides an authentic lens into how he internalises and reproduces language from real-world, non-instructional input.

A video wherein Gaurav playfully revises numerical counting in English with his sister shows the importance of emotional motivation to make him learn words quickly with enthusiasm: https://drive.google.com/file/d/1DBHHVCHyaLHtMGhXbOHKX2tryih-3iUN/view?usp=sharing

This inquiry draws on the traditions of qualitative case study research as outlined by Yin (2018) and Stake (1995), prioritizing in-depth observation of language use within a naturalistic context. Given the complex interplay of social, emotional, and cognitive factors involved in Gaurav's learning process, a case study design allows for a rich understanding of how English acquisition unfolds in his everyday life. The goal is not to produce generalisable data, but rather to highlight the value of incidental and contextual learning for individuals with developmental disabilities.

Through this focused case, the study contributes to more inclusive perspectives in second language acquisition (SLA) research, bringing forward voices and learner experiences that are often underrepresented. By centering Gaurav's lived reality, the research invites a more humanized understanding of language learning that values the role of imitation, enthusiasm, and learner agency.

FINDINGS AND ANALYSIS

The findings presented in this section are based on qualitative data collected over a three-month instructional period. They are organized around the four core language domains listening, speaking, reading, and writing as well as key themes that emerged during observation and analysis. The data reflect both Gaurav's linguistic development and the broader affective and cognitive processes shaping his English language acquisition.

A. Language Skills Across Domains

Listening

Gaurav demonstrated a developing ability to comprehend basic everyday English when accompanied by visual or contextual support. He responded consistently to questions such as *"What's your name?"*, *"What is this?"*, and *"how are you?"*. Comprehension was strongest when instructions were paired with gestures or objects. This suggests that there is high reliance on multimodal cues. During one interaction on food vocabulary, Gaurav accurately followed a sequence of commands and learnt new words

without direct tutoring (e.g., *"this is an apple"*) with minimal prompting.

When I told him 4-5 times for different objects mentioning, "it is (object's name)", he understood the meaning of the phrase "it is" and later completed each sentence himself by adding what would after "it is" looking at what object I pointed at.

Speaking

Gaurav's expressive language was characterised by short, formulaic utterances, such as *"I am Gaurav"*, *"good boy"*, or *"thank you so much", "love you"*. He often omitted auxiliary verbs and articles. This is commonly found as syntactic challenges in Down syndrome kids (Chapman & Hesketh, 2000). However, his use of intonation, facial expression, and body language greatly supported communication. Across the study period, he increased his verbal output, especially in familiar routines like greetings and self-introductions. Occasionally, rehearsed phrases were produced with near-native rhythm and clarity. This particularly suggested successful memorization-based learning. *For example, he would also sing songs in English like "this is me" without always understanding what it meant*.

Here is a video wherein he is learning using the word "thank you":
https://drive.google.com/file/d/1icqmLYc-4NHncTVIhWKLzmQ6qzlrORH9/view?usp=sharing

Reading

Gaurav was able to match words to pictures and read aloud words he had crammed the spellings of but with support. During structured reading tasks, he showed success with reading out spellings of fruits, vegetables, prepositions etc. (e.g., "banana, apple, ladyfinger, potato, on, of, at, it, if") and highly familiar vocabulary. He struggled with decoding multisyllabic words and required phonic cues and teacher modelling. Reading fluency improved slightly over time but remained slow and effortful.

For example, he could read C-A-T as cat, M-A-N-G-O as mango. The best part came when he showed ability to recognise who called on his mother's phone. He would generally remember the initial letter of each relative he was fond of and would immediately recognise with excitement who was calling on his mom's phone.

Here is a video wherein he is trying to learn the spellings of "on", "of" and "off" https://drive.google.com/file/d/13gERuoX6_fnv0L2UqVevE-_CmTZBaxuN/view?usp=sharing

Writing

Gaurav's written output was limited but showed progress over the course of the study. Early sessions featured copying words or tracing letters, while later tasks involved writing short words with visual prompts (e.g., *his own name Gaurav, his address, his father's name, his sister's name etc*.). He frequently used invented spelling. His letter formation remained inconsistent. Writing tasks were most successful when integrated with drawing, labelling, or selecting from word banks.

For example, he sometimes wrote "d" instead of "b" and could not recall how to write "m" v/s "n".

B. Compensatory Strategies

Gaurav used several compensatory strategies to support his communication:

- **Memorised Phrases:** Frequently relied on fixed expressions (e.g., *"How are you?"*, *"Thank you"*), often delivered fluently.
- **Gestures and Facial Expression:** Augmented verbal output with expressive gestures, which appeared to enhance understanding by interlocutors. For example, he would show a rising hand gesture to say "aeroplane".
- **Pronunciation:** If Gaurav would find it difficult to pronounce a word, he would either just pick the last part of the word with its major consonant and vowel or try to learn it by breaking it up in pieces with the help of his mother or sister. For example, he learnt speaking the word "hospital". He first pronounced it as "hospital" and then "hospital" before he finally could speak hospital. He first spoke the word "laptop" as "laptop" but later learnt to pronounce it properly.

C. Role of Motivation and Affective Factors

Gaurav consistently demonstrated high motivation and engagement, especially when activities were personalised (e.g., discussing his favourite music or family). Positive reinforcement, predictable routines, and opportunities for success contributed to a low affective filter. This often encouraged him to take communicative risks. Laughter, smiles, and spontaneous use of English were regularly observed particularly in games or music-based activities.

Gaurav's affective disposition played a significant role in his willingness to participate. Although he sometimes felt demotivated and hesitant to speak. He would say "agata Nahi" which means "I cannot" in Hindi. However, his eagerness to interact let him overcome. It suggests that social motivation can be a powerful driver of SLA in individuals with intellectual disabilities.

D. Coded Patterns and Observed Behaviours

Gaurav faces challenges in using accurate syntax, verbal memory and written expression. He depends on using only the primary words in a sentence for the sake of ensuring that his family comprehends what he's trying to convey. His social orientation and curiosity-driven engagement in conversations provide a powerful foundation for him to acquire communicative English. His case, thereby, shows the importance of differentiated instruction, multimodal input and consistent positive reinforcement in supporting ESL learners with intellectual disabilities.

The following patterns were coded during observation and analysis:

Code	Description	Examples
Simplified Grammar	Use of reduced syntax (e.g., subject + verb)	"Excuse me, pronounced as "sauce me," "G O go"
Gesture Support	Frequent pointing, miming, and facial expressions	First, he tries to speak, but if the second person doesn't understand, he tries to explain using gestures
Visual Reliance	Needs objects as cues to name or understand words	He often likes to use his phone and YouTube searches
Routine Dependence	Strong performance in predictable exchanges	"petrol" → "petrol pump"
Echoing	Repetition of a family member's last word or phrase	"Boy, good boy"
Affective Engagement	Smiling, laughter, and verbal enthusiasm	Spontaneously says "happy" when praised

INTERPRETATION

The following section interprets the results through relevant theoretical frameworks and compares the findings with existing research. It also offers implications for ELT practices.

A. Comparison with Existing Research

As with previous studies (Rondal & Edwards, 1997; Laws & Bishop, 2003), Gaurav's language development showed delays but it also exhibited consistent growth in functional language skills. This is particularly possible with supported multimodal input and repetition. His frequent omission of articles and auxiliary verbs is consistent with findings that individuals with Down syndrome often struggle with syntactic structures, even in their native language (Chapman & Hesketh, 2000).

Some aspects of Gaurav's learning diverged from expectations based on existing research. For example, his rapid vocabulary growth was particularly notable. This was potentially due to motivation-driven engagement in routine and familiar tasks. This was in contrast to some previous studies that highlight a slower vocabulary acquisition in learners with Down syndrome (Fidler et al., 2005). Gaurav's exposure to English through both family contributions and his passion for media (e.g., YouTube, TV) could explain this faster acquisition, aligning with Krashen's Input Hypothesis (1982). Gaurav's success in understanding English vocabulary in context supports the idea that quantity and quality of exposure can foster effective language learning in individuals with intellectual disabilities.

As Vygotsky (1978) predicted, peer interactions in some group-based activities. On similar lines, social interactions largely facilitated Gaurav's learning. The Zone of Proximal Development (ZPD) was evident in his incremental progress in production. This was particularly visible when the pronunciation of words was broken down into smaller parts for Gaurav to emulate.

B. Insights into Language Learning in Down Syndrome

Some of the findings from this study were unexpected, particularly the speed of Gaurav's vocabulary growth. His acquisition of high-frequency words such as food items and simple adjectives further strengthens findings from research on lexical development in Down

syndrome. This aligns with research, where in it mentions that early vocabulary learning often occurs at a more rapid pace compared to other cognitive milestones (Kumin, 2006). This could be attributed to his strong visual learning style and the use of real-world objects. Naturally, it helped bridge the gap between conceptual understanding and verbal expression (van Buren et al., 2016).

These supports are consistent with the core principles of Vygotsky's Sociocultural Theory, wherein scaffolding and guided interaction are deemed necessary for cognitive and language development. Gaurav internalised language structures that were predictable and frequently repeated. The peer modelling aspect of the interactions also showed promising results, wherein Gaurav observed his peers using English in communicative contexts.

Interestingly, Gaurav's self-correction and reliance on non-verbal cues such as gestures and facial expressions also emerged as significant components of his learning process. This aligns with theories of compensatory strategies in language learning where individuals with intellectual disabilities utilise visual, social, and non-verbal strategies to compensate for language gaps (Kay-Raining Bird et al., 2000). Despite his limited verbal output, Gaurav's use of gestures and intonation enhanced his ability to communicate effectively. This suggests that a broader view of communicative competence should be considered for learners with Down syndrome.

C. Implications for ELT

The findings of this study have important implications for English Language Teaching (ELT) for learners with Down syndrome and other intellectual disabilities. Firstly, this case signals the need for inclusive practices in ELT. The success observed in Gaurav's language development can be largely attributed to individualised instruction and the multimodal approach. By using visual aids, gesture-based prompts, and structured routines, one can create a low-stress, high-engagement environment that encourages language learning without overwhelming the learner.

The role of individualised instruction is imperative. This study supports the idea that differentiation, such as simplifying language, using tactile and visual supports, and providing frequent repetitions, is crucial for ensuring the success of learners with Down syndrome. In Gaurav's case, one-on-one sessions were vital to his progress, as they allowed for personalised feedback, immediate error correction and adjustment of tasks to his pace.

This study also advocates the need for ongoing professional development for ESL teachers working with learners with special needs. Teachers must be equipped with skills to design inclusive lessons. Professional development should focus on strategies for scaffolding language input using assistive technologies. Teachers should also be made aware of the compensatory strategies that learners with Down syndrome may use such as gesture-based communication and visual cues. Therefore, it will be highly instrumental to learn how to integrate these strategies into their teaching practice.

REFERENCES

Bird, E. K.-R., Cleave, P. L., White, D., Pike, H., & Helmke, A. (2000). Written and oral narratives of children and adolescents with Down syndrome. *Journal of Speech, Language, and Hearing Research*, *43*(2), 329–343. https://doi.org/10.1044/jslhr.4302.329

Chapman, R. S., & Hesketh, L. J. (2000). Language, cognition, and short-term memory in individuals with Down syndrome. *Down Syndrome Research and Practice*, *7*(1), 1–7. https://doi.org/10.3104/reports.111

Crystal, D. (2003). *English as a global language* (2nd ed.). Cambridge University Press.

Ellis, R. (2004). *The study of second language acquisition* (2nd ed.). Oxford University Press.

Fidler, D. J., Hepburn, S. L., & Rogers, S. J. (2005). Early learning and adaptive behavior in toddlers with Down syndrome: Evidence for an emerging behavioral phenotype? *Infants and Young Children*, *18*(2), 86–103. https://doi.org/10.1097/00001163-200504000-00002

Florian, L., & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *British Educational Research Journal*, *37*(5), 813–828. https://doi.org/10.1080/01411926.2010.501096

Gradel, D. (2006). *English next: Why global English may mean the end of 'English as a foreign language'*. British Council. https://englishagenda.britishcouncil.org

Kay-Raining Bird, E., Cleave, P., & McConnell, L. (2000). Reading and phonological awareness in children with Down syndrome. *Journal of Speech, Language, and Hearing Research*, *43*(2), 587–599. https://doi.org/10.1044/jslhr.4303.587

Klopfer, L., & O'Donnell, K. (2020). Creating accessible ESL classrooms: Inclusive practices for learners with disabilities. *TESOL Journal*, *11*(4), e00484. https://doi.org/10.1002/tesj.484

Krashen, S. D. (1982). *Principles and practice in second language acquisition*. Pergamon Press.

Kumin, L. (2006). *Speech and language skills in children with Down syndrome* (3rd ed.). Woodbine House.

Laws, G., & Bishop, D. (2003). A comparison of language abilities in adolescents with Down syndrome and children with specific language impairment. *Journal of Speech, Language, and Hearing Research*, *46*(6), 1324–1339. https://doi.org/10.1044/1092-4388(2003/103)

Rondal, J. A., & Edwards, S. (1997). Language in mental retardation. *Whirr Publishers*.

Stake, R. E. (1995). *The art of case study research*. SAGE Publications.

Van Buren, A., Gervin, J., & Hollick, G. (2016). Second language learning and cognitive development in children with developmental disabilities. *Language Teaching and Learning*, *13*(2), 123–145. https://doi.org/10.1017/S026144481600005X

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.