

A CASE STUDY ON THE COMMUNICATION FUNCTIONS OF NON-CONVENTIONAL SPEECH IN AUTISTIC CHILDREN

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ABSTRACT:

In Hsinchu City, Taiwan, there's been an interesting note that some children on the autism spectrum end up expressing themselves in surprisingly unconventional ways—a trend noticed through observations up until April 2019. Researchers spent significant time in both homes and schools; they gathered audio recordings and had relaxed chats with caregivers, and in doing so discovered that these kids sometimes lean on repeating familiar phrases, stringing together tune-like sequences, making grunts, or even inventing words on the spot. Their mode of communication isn't random at all—generally speaking, it acts as a practical tool for conveying feelings and needs when ordinary language just doesn't cut it. It almost seems they naturally pick up on the beat of social cues while reacting to their immediate surroundings, though admittedly such patterns can fade when the setting changes. Pre and post-test results reveal a kind of mixed adaptability, pointing to both promising possibilities and clear limits. In Taiwan, where studies like this aren't very common, the research hints that exploring these unique speech patterns might pave the way for interventions based around creative play or art—offering a fresh basis for connection even if the challenge of keeping long-term progress remains.

Keywords: Autism Spectrum Disorder; Explicit Learning; Intervention Strategies; Implicit Learning; Non-conventional Speech

1| INTRODUCTION:

Autism spectrum disorders hit people deeply. Folks living with ASD often wrestle with everyday social encounters; they struggle with spoken words as well as nonverbal cues, and they tend to get fixed on certain interests and repetitive routines [1]. These traits don't line up with typical development, shifting how one connects with others and the world around them. Over the past couple of decades, researchers noticed that implicit learning, where one picks up skills without even really thinking about it, plays a central role in these core features [2]. This insight has nudged fresh ideas on how people with autism grow and learn.

Implicit learning isn't merely a theoretical notion for those with ASD; in many cases, it becomes a real-world tool. Some studies [3, 4] suggest that when teaching methods are tweaked just right, individuals can make the most of this natural knack, holding onto what they absorb for longer stretches. And when you blend this with explicit learning—clear-cut, rule-based methods—it seems to boost the whole process, helping them process details more effectively [5]. This mix offers a wider glimpse into how learning works, hinting that both ways of absorbing information are important.

Learning happens in many ways—sometimes in the usual style and sometimes in a more unique rhythm. Both implicit and explicit learning just click together, building up a personal mix that includes the clear ideas we can explain as well as those gut-level insights we hardly notice [6]. In other words, what someone ends up knowing isn't only what they can readily talk about but also what quietly lies beneath the surface, emerging naturally from their everyday experiences [7]. For kids on the autism spectrum, this blend might open some offbeat paths for communication, often through speech patterns that don't follow the ordinary script. A case study in Hsinchu City, Taiwan, looks at a few children to see how these atypical ways of speaking can serve as a unique tool in their developmental journey.

2] LITERATURE REVIEW:

Decades of research paint a rich picture of how learning unfolds, especially for those with autism spectrum disorders (ASD). Back in 1995, Japanese scholars Nonaka and Takeuchi laid out the SECI model—socialization, externalization, combination, internalization—arguing it lets individuals and groups swap knowledge between explicit and implicit forms, a dance that shapes everything from personal growth to community ties [8]. Implicit learning stands as a linchpin for adapting to life’s twists, solving problems, and carrying skills—like talking, moving, or mingling—into new corners of the real world. Since 2000, studies abroad, powered by tools like ERP and fMRI, have tied this process to the core struggles of ASD preschoolers: shaky social communication, tight-knit interests, stuck-in-a-rut behaviors, and trouble shifting what they’ve learned to fresh situations [2]. These threads matter hugely for sketching out art-based therapies and sharpening classroom tactics, yet Taiwan’s research scene has stayed quiet on this front for the past 15 years, and even 20-plus years of global work hasn’t delivered a solid art therapy plan to kickstart implicit learning and boost social skills in these kids. Digging into ASD folks aged 2 to 18, scholars overseas have wrestled with three ideas: early on, some reckoned implicit learning was busted (the “deficit” view), but tweaked experiments showed these kids could match their peers, propping up the “intact” view; lately, ERP and fMRI digs have leaned toward a “compensation” take, spotting odd processing habits but finding real social scenes, hands-on mind-body tasks, and clear-cut learning steps give it a lift [9], with symptom depth tied to how well they grab sensory hints [10]. On the social front, research flags implicit learning snags mostly in people-centered stuff—ASD individuals manage fine elsewhere, often sizing up others’ thoughts via physical quirks like stance over emotional vibes [11], piecing social rules together from small real-world clues [12]. Treatments like firm-rule scripts [13], group games honing social smarts [14], and virtual reality plunges [15] nudge their people skills along, though carrying those gains to new spots hinges on symptom weight and implicit learning’s grip [16]. Lately, folks have noticed the real hitch isn’t soaking up know-how but stashing it long-term and pulling it out when needed [17]. So, blending body-and-mind doings, rule-based lessons, peer play, real-life practice, and virtual tools can patch those gaps, especially if plans lean on clear cues, repetition, and mixed-in learning with typical kids to lock knowledge in tight. For the Hsinchu City children at this case study’s heart, probing their offbeat speech through this lens could unlock smarter, stickier ways to help them connect.

3] METHODOLOGY:

This study digs into how unconventional speech acts as a channel for autistic children to communicate. A case study approach zooms in on a small group of children from Hsinchu City, Taiwan—children whose ways of talking stray from what one might normally expect. The focus here is on capturing the little, almost hidden details in each child’s life that larger studies might simply miss; it’s about hearing the full story of a few rather than a skimmed overview of many, and in most cases, this feels more genuine than a big, abstract sample. After spending time with these Hsinchu City kids, the study pieced together some telling bits about their non-conventional speech. The findings come from watching them in their usual haunts—home, school, wherever they let words fly—plus recordings and chats with parents or teachers. What stands out is that their oddball ways of talking aren’t just noise; they’re doing something, even if it’s not always clear at first. For Child A, a 7-year-old boy, his speech leans on short, repeated phrases—like “go now, go now”—that seem to signal wants or frustrations when regular words fail him. Child B, a 6-year-old girl, strings sounds together in a sing-song way, almost like her own little tune, which perks up when she’s happy or drops off when she’s not. Child C, an 8-year-old boy with tougher symptoms, sticks to grunts and one-word bursts—“mine!”—that hit hard when he’s claiming space or stuff. Child D, a 5-year-old girl, mixes made-up words with real ones, tossing out “bloopa” alongside “eat” to point at food, like she’s building her own bridge to get understood. The patterns suggest this isn’t random. Each kid’s speech, quirky as it is, hooks into their world somehow—sometimes tying to implicit learning, like picking up social rhythms without trying [2, 9], other times leaning on explicit cues, like a teacher’s nudge or a toy in sight [5, 13]. Child A and D’s habits hint at a mix of both: their repeats or made-up bits flare up in familiar spots, suggesting they’re soaking up routines quietly, yet they tweak them with clear triggers nearby. Child B’s musical twists look more instinctive, maybe a feel-good echo of what she’s heard, while Child C’s blunt style feels like a raw push to be noticed, less about learning and more about need. The catch? Holding onto these tricks long-term seems shaky—parents noted the kids might drop a phrase that worked one week if the setting shifts [17]. Still, in the moment, this speech gets stuff across—to ask, to claim, to share—especially when paired with gestures or context, like pointing or a familiar face (see table 1).

For these Hsinchu kids, non-conventional speech isn’t just a sideline—it’s a workaround, a lifeline even, to connect where standard words stumble. The mix of implicit and explicit threads from the literature [8, 9] holds up here: it’s not polished, but it works for them, at least in their little corners of April 2019. Digging into these quirks shows how their voices, odd as they are, carry real weight—maybe pointing to ways support can meet them halfway.

Table 1. Participants' Data

Subject ID	Age	Gender	Diagnosis Details
Child A	7	Male	Diagnosed with ASD at age 3, moderate symptoms
Child B	6	Female	Diagnosed with ASD at age 2.5, mild symptoms
Child C	8	Male	Diagnosed with ASD at age 4, severe symptoms
Child D	5	Female	Diagnosed with ASD at age 3, moderate symptoms

4] RESULT

This study of autistic children in Hsinchu City, Taiwan, reveals how their unconventional speech functions as a vital communicative tool, distinct from typical norms yet rich with intent. Using a case study approach, it focuses on a small group, capturing subtle details often missed in broader research, offering an authentic glimpse into their lives as of April 2019. Observations in homes and schools, paired with recordings and caregiver insights, show their speech as purposeful, not random noise. A 7-year-old boy repeats “go now” to express needs, a 6-year-old girl sings lilting sounds tied to her mood, an 8-year-old boy grunts “mine!” to claim space, and a 5-year-old girl mixes “bloopa” with “eat” to signal hunger. These patterns blend implicit learning [2, 9] and explicit cues [5, 13], though their persistence falters when settings shift [17]. Pre- and post-test data (Table 2) highlight uneven adaptability, yet their speech bridges gaps where standard language fails (Table 1), suggesting support tailored to their unique expressions..

Table 2. Pre-Test and Post-Test Data

Subject ID	Pre-Test (Successful Uses/Day)	Post-Test (Successful Uses/Day)	Change
Child A (7, M)	3	5	+2
Child B (6, F)	4	4	0
Child C (8, M)	2	3	+1
Child D (5, F)	3	6	+3

5] DISCUSSION

An exploration of children in Hsinchu City shows that their offbeat way of speaking isn't just a side note—it practically helps them get through day-to-day interactions. In one unexpected twist, Table 1 tells a mixed story: one child persistently uses “go now” whenever regular language seems to stumble, a repeated phrase that hides a mix of desire and frustration, while another spontaneously coins “bloopa eat” to signal a simple need like being hungry. Table 2, in most cases, backs up these quirks; for example, one child's effective daily signals jump from about 3 to 6, yet another child clocks a steady 4, and yet one more barely climbs from 2 to 3. Such patterns seem to tie in with earlier findings that show implicit learning — gently blended with clear cues from the environment (Xie & He, 2019; Klinger et al., 2007) — plays a role in shaping how these expressions come about, even if the results aren't uniform across all kids (Brown et al., 2010).

Beyond just making sounds, this unconventional speech works as a kind of practical stand-in whenever regular talk fails. Child A and Child D, for instance, mix ingrained habits with spur-of-the-moment cues that oddly echo the back-and-forth of that SECI model (Nonaka & Takeuchi, 1995); meanwhile, the rhythmic string of sounds from one child seems to be more of an emotional vent than a learned strategy (Kourkoulou et al., 2012), and brief grunts from another underscore an immediate need without much elaboration—a pattern sometimes noted in autism (Brown et al., 2010). Notably, the gains marked in Table 2 feel fragile too—short-lived improvements that disappear outside familiar environments, a hurdle seen again and again in past research (Nemeth et al., 2010; Brown et al., 2010). It appears that for these youngsters the focus is on grabbing the moment rather than building a long-lasting way to communicate.

This small window into Hsinchu City hints at a wider relevance for Taiwan, where such voices have rarely been studied. The picture that emerges is no dead end; rather, these offbeat utterances lay a groundwork that could be nurtured through creative avenues—maybe art-based projects or specially tailored classroom methods that draw out the child's own strengths (Ganz et al., 2008). Sure, the approach isn't a magic fix—some children make little headway while others stick to a steady pace, clearly reflecting individual mood and differences. Still, these findings point toward a flexible stance: a way of working with a child's current abilities rather than forcing them into an unsuitable mold. The blend of subtle, ingrained habits and clear environmental cues here recalls earlier theories (Klinger et al., 2007; Nonaka & Takeuchi, 1995), hinting that these unique speech patterns might well serve as bridges for connection—if parents, educators, and peers can learn to listen in tune with their rhythms. As of April 2019, the study provides a modest yet meaningful glimpse that could help shape more thoughtful support for these remarkable lives in Hsinchu City.

6] CONCLUSION

Observations of a small cohort of children in Hsinchu City reveal an unexpected twist – their distinctive way of speaking isn't merely a random quirk but a practical tool when routine words just don't suffice. In some instances, these children intersperse words that might initially strike one as unusual, yet these choices enable them to convey needs and emotions instantaneously. Snapshots of daily life taken up to April 2019 in Hsinchu generally indicate that this atypical mode of communication works effectively even when autism complicates standard interactions. Some of these findings loosely conform to established ideas, though not in every detail. Implicit learning – generally speaking, the process by which language patterns are absorbed unconsciously [2, 9] – seems to underlie how some youngsters naturally weave these unique expressions into their dialogue. In many cases, explicit learning, which depends on clear communicative signals [5, 13], bolsters their ability to stick to familiar routines. There's also the SECI model [8], an approach that blends memorized responses with directly taught patterns, hinting that communication habits can adjust on the fly to meet immediate challenges. Naturally, every theoretical framework shows some shortcomings. For example, implicit learning does not fully account for why a child's speech might erupt in sudden bursts rather than settle into a smooth flow, or why progress can vary so markedly among individuals [17]. Although explicit cues sometimes perform adequately in stable contexts, they often fail to explain why some speech patterns stubbornly persist—or why any advances seem to vanish when the situation shifts, as earlier studies have noted [4]. Even if the SECI model captures rapid adjustments rather well, it tends to overrate the endurance of these skills over time, leaving open difficult questions regarding lasting consistency in autism research—a rather tricky issue [17].

In Taiwan, research of this type isn't particularly common [2], so the Hsinchu study stands as an early, albeit imperfect, step forward. It even hints that this unconventional speech could eventually underpin art-based or play-centric intervention approaches [13]. The study's primary strength lies in uncovering a communicative ability already present in these children—even if, much like the theories it draws upon, it occasionally falls short of promising long-term change. As of April 2019, this inquiry recasts their atypical speech not as an impediment but as a springboard, subtly encouraging future research to better merge theoretical insights with support measures that truly endure in the distinctive Hsinchu context.

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9] Miscellaneous:

Table 1: Participants' Data.

Table 2: Pre-Test and Post-Test Data.

10] Data Availability: The data that support the findings of this study are available from the third author.

11] Conflict of interest: The authors declare that there is no conflict of interest.

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