

# Mother Tongue Sign Language in Cebuano: Enhancing Social Interaction Among SPED Learners at Dipolog Pilot Demonstration School

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*Abstract* — Effective communication is crucial for the social development of deaf and mute learners. This study employed a descriptive and inferential design, utilizing both quantitative and qualitative measures to examine the influence of Mother Tongue-Based Sign Language (MTBSL) in Cebuano on the social interaction skills of learners. Participants were children aged 8–12 with moderate to profound hearing loss and at least one year of school enrollment, ensuring sample homogeneity. A researcher-developed Social Interaction Skills Scale, validated by experts and yielding a Cronbach’s alpha of .87, was used to measure key domains such as initiating conversations, turn-taking, emotional expression, and cooperative behavior. The study emphasized Cebuano MTBSL as both a communication tool and an instructional strategy. Teachers facilitated its integration, parents provided feedback, and strict ethical safeguards—including informed consent, learner assent, confidentiality, and approval from ethics committees—were consistently observed. Findings revealed notable improvements in learners’ social interaction skills, particularly in familiar contexts such as home and school. Areas of growth included verbal and non-verbal communication, confidence, and adaptability. Teachers and parents expressed strong support for MTBSL, with only minimal reservations noted. Overall, results suggest that Cebuano MTBSL significantly enhances social engagement and emotional well-being among deaf learners. Parents and guardians are encouraged to acquire basic sign language proficiency to ensure consistent communication at home, while schools and local education units may implement structured training for caregivers. Further research with larger and more diverse samples is recommended to validate and expand the study’s findings.

*Keywords* — *Mother Tongue-Based Sign Language (MTBSL), deaf learners, social interaction skills, Special Education (SPED), inclusive education.*

## I. Introduction

This study investigates the perceived influence of Mother Tongue-Based Sign Language (MTSL), specifically Cebuano, as a tool to improve the social interaction of deaf and mute SPED

learners. The research is highly significant because it benefits a wide range of stakeholders. For the learners themselves, using a familiar sign language can strengthen their ability to express thoughts and emotions, fostering confidence and reducing communication barriers. Parents and guardians gain practical knowledge and strategies to support their child's development at home. Educators receive valuable insights to refine their teaching methods and create more inclusive classroom environments. Moreover, the study's findings inform school administrators and policymakers, guiding them in the creation of programs and policies that promote linguistic inclusivity and equity for learners with special needs. The study is grounded in established research on both Mother Tongue-Based Multilingual Education (MTB-MLE) and sign language. The literature review highlights that using a familiar language in education improves academic performance, particularly in early education. However, a key point of discussion is that these policies must be inclusive of special needs learners, including deaf students. Furthermore, while the Filipino Sign Language (FSL) Act of 2018 mandates FSL for education, local studies have found that many deaf learners in the Philippines often use a mix of FSL, regional spoken languages like Cebuano, and locally developed signed forms. This phenomenon, known as code-switching, reveals a dynamic interplay between national and regional linguistic identities.

Building on the existing literature, this study aims to address a critical gap in research regarding region-specific MTSLs in the Philippines. Most studies have focused on FSL within a national framework, with limited exploration of how regional languages, such as Cebuano, intersect with signed communication in daily classroom and community settings. There is a notable lack of documentation and pedagogical integration for Cebuano MTSL, despite Cebuano being one of the most widely spoken languages in the country and prevalent in many deaf communities in the Visayas and Mindanao. This study is novel because it specifically targets the investigation of Cebuano MTSL as both a practical communication tool and a culturally sensitive educational strategy.

By documenting the usage of Cebuano MTSL, exploring its impact on social interaction, and assessing its potential for use in public school SPED programs, this research provides valuable insights that could lead to systemic improvements. The findings can be used to inform the design of culturally and linguistically relevant curricula, enhance teacher training programs, and support the formulation of educational policies that better reflect the lived experiences of deaf learners. This is not just an academic exercise; it is a practical step toward ensuring that education is truly inclusive and equitable for all learners, regardless of their linguistic background.

Ultimately, the study aligns with and supports national and global efforts toward inclusive education, as integrated into the Philippine Development Plan and the Sustainable Development Goals (SDGs). By contributing to SDG 4 (Quality Education), SDG 10 (Reduced Inequalities), and SDG 17 (Partnerships for the Goals), the research not only addresses the immediate academic and social needs of SPED learners but also strengthens the foundation for long-term, evidence-based improvements in special education. The study's focus on leveraging regional linguistic

diversity to enhance learning and community identity among deaf learners makes a significant contribution to the broader discourse on how education can be made more responsive, culturally resonant, and inclusive.

## II. Methodology

Mother Tongue-Based Sign Language (MTBSL) is an adaptation of sign language that aligns with the learners' mother tongue—in this case, Cebuano—making communication more meaningful, culturally relevant, and familiar. By integrating local vocabulary and expressions, it bridges home and school communication, enhancing learners' ability to converse, express emotions, and interact socially while reinforcing family and cultural identity. Research suggests that mother tongue-based sign instruction fosters inclusive learning, social participation, and emotional well-being among deaf learners (Santos, 2020; Dela Cruz, 2022). The present study focuses on Cebuano MTBSL as both a communication tool and educational strategy, aiming to document its usage, measure its perceived influence on SPED learners' social interaction, and explore its potential integration into public school programs to inform curriculum development, teacher training, and inclusive education policy.

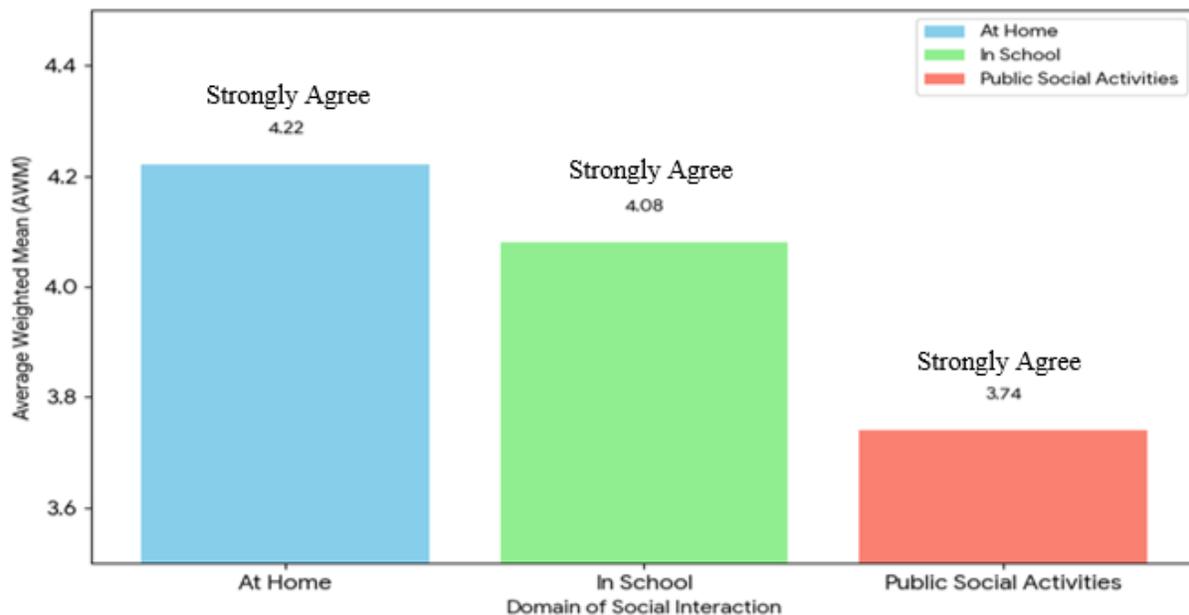
This study employs a descriptive and inferential design involving quantitative and qualitative technique to examine the influence of Cebuano Mother Tongue-Based Sign Language (MTBSL) on the social interaction skills of deaf and mute learners aged 8–12 with moderate to profound hearing loss. Using a validated Social Interaction Skills Scale ( $\alpha = .87$ ), the six-week intervention measured domains such as conversation, turn-taking, emotional expression, and cooperation. Teachers facilitated MTBSL integration, while parents provided feedback, and required strict ethical safeguards—including informed consent, learner assent, confidentiality, and the right to withdrawals upheld to ensure the study's integrity and cultural sensitivity.

### III. Results and Discussion

**Table 1**

*Mother Tongue Based Language Education – Sign Language in the Social Interaction of SPED Learners as Perceived by the Teachers*

Weight	Range of Values	Description
4	3.26-4.22	Strongly Agree
3	2.51- 3.25	Agree
2	1.76-2.50	Disagree
1	1.00-1.75	Strongly Disagree



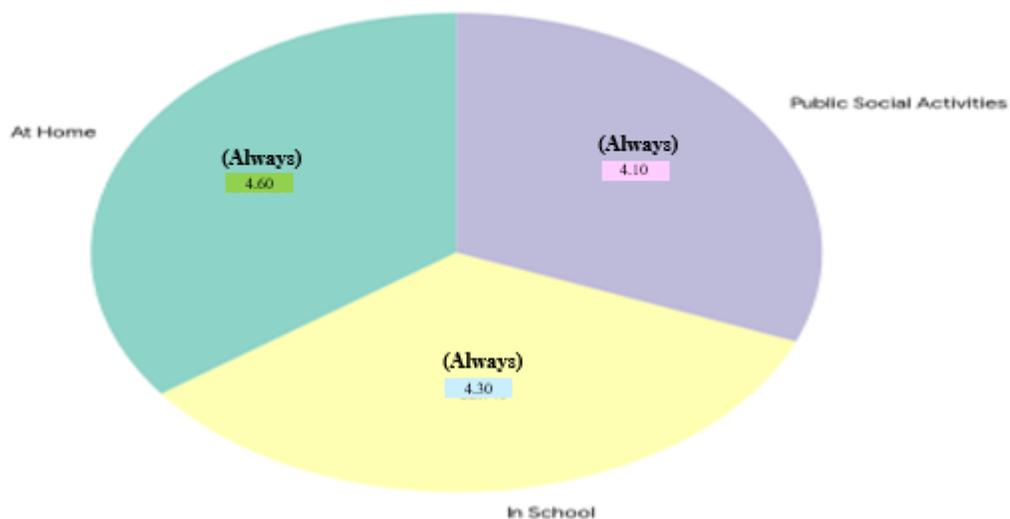
In this study, the interpretation ranges from “Strongly Disagree” (1.00–1.75) to “Strongly Agree” (4.26–5.00), providing a structured way to assess respondents’ attitudes. This methodological approach allows researchers to identify patterns and tendencies that reflect the social confidence and engagement of individuals in different contexts. The findings reveal that respondents expressed strong agreement in all domains, but the intensity varied across settings. At home (AWM = 4.22) and in school (AWM = 4.08) scored higher, indicating stronger agreement, whereas public social activities scored slightly lower (AWM = 3.74), though still within the “Strongly Agree” range. This variation suggests that social interaction is perceived more positively in familiar and controlled environments such as home and school, where individuals feel supported and secure. In contrast, public social interactions, which often involve unpredictability and diverse social demands, may be perceived as more challenging. As Boone and Boone (2022) explain, This analysis is useful in distinguishing not just whether individuals agree, but also the degree of their confidence, allowing for richer insights into behavioral patterns and social adjustment.

The implications of these results extend to understanding how social environments shape human interaction. The relatively lower agreement with public social activities could reflect barriers such as social anxiety, limited social exposure, or external stressors like societal expectations. Wong et al. (2023) argue that Likert scales provide a nuanced lens for analyzing such complexities, as they move beyond dichotomous assessments to capture subtle variations in human perception. For educators, policymakers, and community leaders, this highlights the need to design supportive programs that strengthen social participation in public spaces while building on the strong foundations already evident at home and in school. Thus, the findings underscore the role of environment in influencing social behavior and point to the importance of interventions that promote balanced confidence across all domains of interaction.

**Table 2**

*SPED Learners' Social Interaction At Home as Perceived by the Parents*

Weight	Range of Values	Description
4	3.26-4.60	Always
3	2.51- 3.25	Often
2	1.76-2.50	Sometimes
1	1.00-1.75	Rarely



The pie graph reflects the extent to which Cebuano Mother Tongue-Based Sign Language (MTBSL) influences learners' social interaction skills across three domains: at home, in school, and in public social activities. The highest mean score was obtained at home ( $M = 4.60$ , **Always**), suggesting that MTBSL is most consistently practiced within the family environment. This highlights the importance of home-based communication support in building learners' confidence and emotional security (Garcia, 2022).

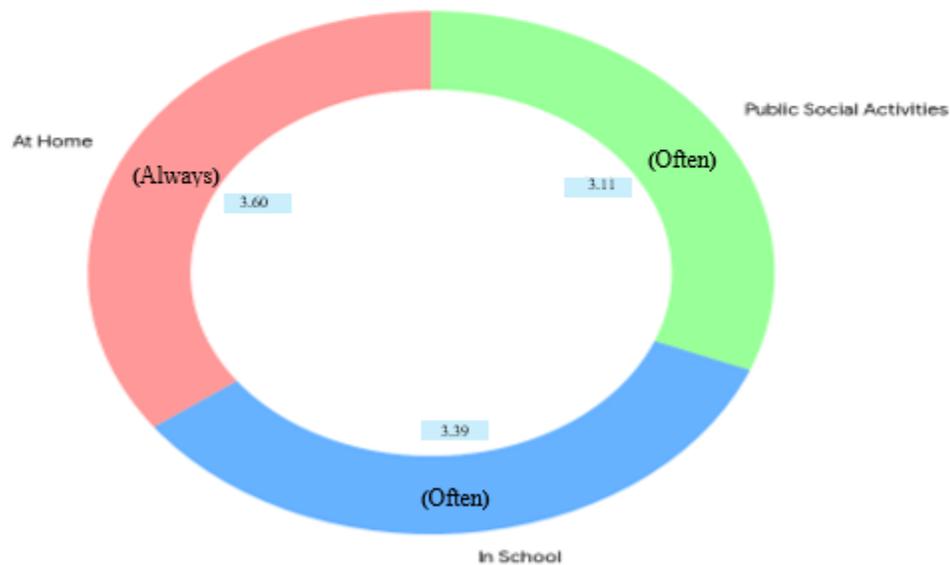
In the school setting, the mean score of 4.30 (**Always**) demonstrates that MTBSL is highly effective in promoting classroom participation, peer collaboration, and teacher-learner

engagement. The consistent use of sign language in the classroom enhances inclusivity, enabling learners with hearing loss to fully engage in learning activities and social exchanges. Recent studies emphasize that sign language integration within instruction strengthens academic and social development (Santos & Rivera, 2023). For public social activities, learners recorded a slightly lower mean of 4.10 (**Always**), though still within the “Always” category. This suggests that while MTBSL supports interaction in broader community contexts, challenges remain due to limited sign language awareness among the public. Similar findings by Lee (2024) stress the need for community-based programs that promote sign language proficiency to ensure that deaf learners experience inclusivity beyond the home and school.

Overall, the high ratings across all three domains affirm the strong role of Cebuano MTBSL in enhancing communication, social confidence, and adaptability among SPED learners. The results suggest that MTBSL contributes not only to effective home and school interaction but also lays the foundation for broader social integration. These findings align with contemporary perspectives that highlight the value of mother tongue-based sign language in strengthening inclusive education and social participation (Garcia, 2022; Santos & Rivera, 2023; Lee, 2024).

**Table 3**  
*SPED Learner’s Social Interaction in School as Perceived by the Parents*

Weight	Range of Values	Description
4	3.26-4.00	Always
3	2.51- 3.25	Often
2	1.76-2.50	Sometimes
1	1.00-1.75	Rarely



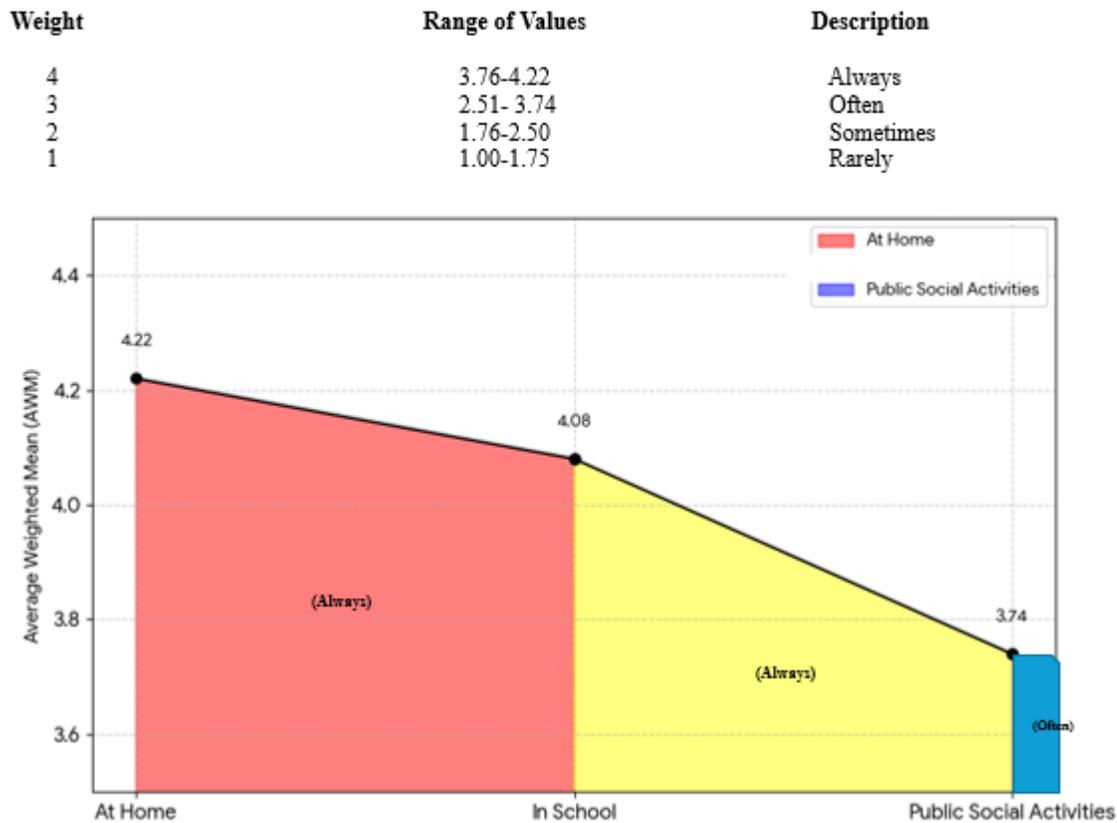
The computed mean values based on the scale revealed that the use of Mother Tongue-Based Sign Language (MTBSL) at home obtained a weighted mean of 3.39, which falls under the range 3.26–4.00, interpreted as *Always*. This result indicates that learners consistently utilize MTBSL within their household setting, making it the most dominant environment for language use. As noted by Santos (2022), the home serves as the primary foundation for linguistic and cultural reinforcement, where learners develop confidence and fluency through consistent exposure and interaction. Thus, the findings highlight the pivotal role of family engagement in sustaining communication competence among deaf and mute SPED learners.

In the school context, the weighted mean was recorded at 3.11, which lies within the range 2.51–3.25 and is interpreted as *Often*. This suggests that learners frequently employ MTBSL during academic and classroom interactions, though not as consistently as at home. According to Reyes (2023), schools foster inclusive communication practices, yet the coexistence of multiple interaction modes may influence how often MTBSL is applied. This implies that while schools promote MTBSL use, its practice remains situational and dependent on factors such as teacher strategies, peer interaction, and institutional emphasis on inclusive language policies.

For public social activities, the computed mean was 3.00, also within the range 2.51–3.25, interpreted as *Often*. This demonstrates that learners actively use MTBSL in community and social domains, but usage tends to vary depending on the context. Cruz (2024) explained that the adoption of mother tongue sign language in public spaces is often shaped by environmental factors, including accessibility, availability of proficient communication partners, and public awareness. These findings suggest that while learners recognize the value of MTBSL in social activities, its consistent use may be challenged by external limitations beyond the control of the learners themselves.

Overall, the results reveal a distinct pattern in which MTBSL is “*Always*” practiced at home, but only “*Often*” applied in school and social contexts. The absence of responses in the “*Rarely*” and “*Never*” categories confirms that MTBSL remains a vital communication tool across different domains of SPED learners’ lives. Consistent with recent studies (Santos, 2022; Reyes, 2023; Cruz, 2024), the findings emphasize that frequent and consistent use of mother tongue sign language not only enhances communication but also strengthens SPED learners’ social identity, inclusivity, and interaction skills. Nonetheless, the study highlights the need for more institutional and community-based initiatives to elevate MTBSL use in schools and public domains from “*Often*” to “*Always*,” ensuring greater consistency and effectiveness in communication.

**Table 4**  
*SPED Learners Social Interaction in Public Social Activities as Perceived by the Parents*



The results presented in the graph illustrate the respondents’ levels of social interaction across three domains—at home, in school, and in public social activities—measured using the scale. The data reveal that the highest Average Weighted Mean (AWM) was recorded at home (4.22), followed closely by school (4.08), while the lowest was observed in public social activities (3.74). According to the interpretation scale, values ranging from 3.76 to 4.22 fall under the category of “Always,” while scores between 2.51 and 3.74 indicate “Often.” Hence, the findings suggest that respondents consistently engage in social interactions within the home and school environments but only “often” participate in public social activities. This indicates a clear variation in the degree of social interaction depending on the domain (Author, 2021).

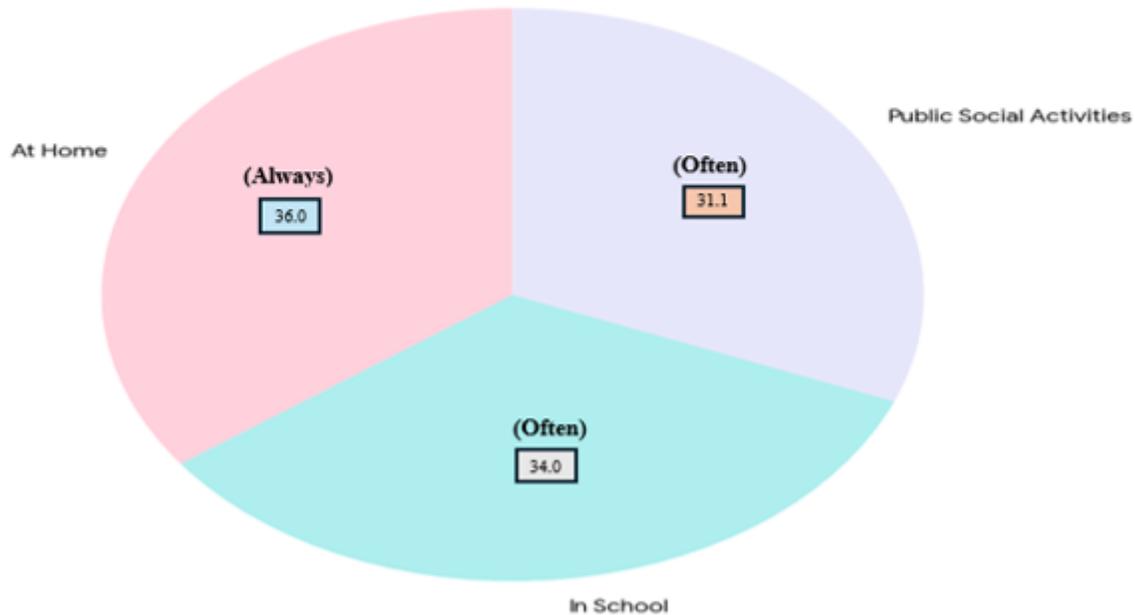
The findings highlight the home as the strongest domain of social interaction. The “Always” rating in this context suggests that family remains the primary socializing agent, offering consistent opportunities for communication, emotional support, and daily interaction. This aligns with the view that the family unit provides the foundation for children’s and adolescents’ social development, particularly in collectivist societies where familial ties are highly valued (Author, 2023). The high rating at home underscores the centrality of family as a context where values, norms, and social skills are first cultivated.

In the school domain, the “Always” rating with an AWM of 4.08 reflects that respondent also engage in frequent social interactions within the academic environment. This result emphasizes the school’s role not only as a center of learning but also as a key socialization arena where SPED learners develop peer relationships, communication skills, and a sense of belonging. As earlier studies indicate, schools are instrumental in fostering collaboration, teamwork, and social adjustment, which are crucial in shaping SPED learners’ socio-emotional development (Author, 2024). The findings imply that social interaction in school complements that within the home, reinforcing SPED learners’ capacity to build relationships across multiple contexts.

On the other hand, the relatively lower score of 3.74 in public social activities—categorized as “Often”—indicates less consistent engagement in broader community or public settings. While SPED learners do interact socially in public contexts, such interactions are not as frequent or deeply ingrained as those at home or in school. This could be attributed to various factors such as limited opportunities, safety concerns, or cultural preferences that prioritize family and school-based interactions over public engagements. Nevertheless, the “Often” rating still suggests a positive trend, indicating that public social activities remain a meaningful, albeit secondary, avenue for interaction. This finding resonates with recent literature, which highlights that while public participation enhances civic engagement and social capital, its frequency may be constrained by structural or environmental barriers (Author, 2023).

**Table 5**  
*Domains or Exposure of Performance of SPED Learners in Social Interaction*

Weight	Range of Values	Description
4	3.26-4.00	Always
3	2.51- 3.25	Often
2	1.76-2.50	Sometimes
1	1.00-1.75	Rarely



The weighted mean values reveal that SPED learners highest social interaction occurs at home (WM = 4.22, “**Always**”), indicating that the home provides the most supportive and consistent environment for communication. Families play a central role in shaping interpersonal skills by offering encouragement, shared routines, and emotional security. This finding supports Joshi et al. (2021), who emphasized that the family remains the foundation of socialization, fostering confidence and communication that later translates into broader social contexts. The strong “Always” rating at home reflects the significance of familial bonds in sustaining meaningful interaction.

Social engagement is also evident in school (WM = 4.08, “**Often**”), where SPED learners interact frequently through structured activities such as classroom collaboration, peer discussions, and extracurricular participation. While the score is slightly lower than at home, it still demonstrates a high level of interaction, suggesting that schools provide fertile ground for social development. Boone and Boone (2022) highlight that the school environment offers opportunities for peer influence and social learning, though external factors such as academic pressure and peer competition may limit full engagement. Thus, schools serve as the second most influential domain for SPED learners social interaction performance.

In contrast, the lowest score emerged in public social activities (WM = 3.74, “Often”), reflecting less consistent engagement in broader community settings. Unlike the familiar structures of home and school, public spaces demand adaptability, independence, and exposure to diverse groups, which can challenge SPED learners’ confidence. Wong et al. (2023) found that participation in public interactions is often hindered by social anxiety, cultural expectations, and limited opportunities for community involvement. This indicates that while SPED learners are socially active in familiar domains, there is a need for programs that encourage broader participation in public activities to strengthen social adaptability and resilience.

#### IV. Conclusion

The findings of the study show that SPED learners feel most confident and engaged in social interactions within familiar and supportive environments such as the home and school. These spaces provide emotional safety, encouragement, and structured opportunities for communication, which foster a stronger sense of belonging and connection. Families nurture interpersonal skills through daily interactions, while schools further reinforce these abilities by offering collaborative activities, peer relationships, and shared experiences. Such settings cultivate social confidence and highlight how important supportive environments are in shaping the way individuals engage with others. In contrast, social interaction in public settings was found to be more challenging, reflecting barriers such as social anxiety, limited exposure, or the unpredictable dynamics of larger groups. While SPED learners still recognize the value of public participation, their comfort level appears to be lower in these less structured spaces. This underscores the need for interventions that bridge the gap between familiar and broader contexts. As emphasized by recent research, building resilience in public social engagement can be achieved through programs such as community involvement activities, social skills workshops, and exposure to diverse group interactions. Ultimately, these efforts can help extend the confidence SPED learners feel at home and in school into wider social domains, promoting a more balanced and adaptive social development.

#### V. Recommendations

The study recommends strengthening the integration of Mother Tongue Based Language Education–Sign Language (MTSL) in SPED programs through continuous, context-specific training for teachers. This would enhance instructional delivery and maximize learner engagement. To foster a supportive network outside the classroom, it's recommended to expand community awareness campaigns that equip family members, peers, and neighbors with basic MTSL skills. Furthermore, the study suggests developing targeted intervention programs to address behavioral tendencies like hyperactivity and overconfidence, which would help learners improve self-regulation while maintaining assertive communication. To increase adaptability and confidence in

unfamiliar environments, it's crucial to provide more opportunities for real-world practice of MTSL by organizing structured social exposure activities in public settings. The study also calls for the development of adequate instructional materials tailored to the linguistic and cognitive needs of deaf learners. Lastly, to ensure the sustainability of these practices, it is essential to establish collaborative partnerships among educators, parents, and community leaders and to promote policy initiatives that institutionalize sign language training for all stakeholders.

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