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Assessing parents' capability of using Filipino Sign Language to communicate with hearing-impaired children: Basis for developing assistive videos for parents

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A B S T R A C T

Effective communication between parents and children who are hearing impaired remains a critical concern, as many parents lack the skills to support daily home and school interactions. This study developed Filipino Sign Language (FSL) Basic Survival instructional videos to enhance parents' communication with their children. Using a Research and Development (R&D) design, 20 parents of children enrolled in SPED programs in Ilocos Norte participated. Data were collected via a needs assessment survey and a validation rating scale, and analyzed using mean scores with qualitative descriptions. Findings revealed limited proficiency in routine household and academic vocabulary but functional competence in caregiving, safety, hygiene, and emergency-related signs. Guided by these results, context-based FSL videos were developed to support daily interactions. Expert validation rated the materials as Very Highly Valid, confirming pedagogical soundness, technical quality, and accessibility. The study highlights the effectiveness of multimedia instructional tools in bridging parental FSL skill gaps, strengthening parent–child communication, promoting inclusive home and school environments, and recommends structured, ongoing FSL training for parents.

Introduction

Effective communication is essential to cognitive, social, and emotional development. For children with hearing impairments, communication barriers often limit learning opportunities, social interaction, and self-esteem (Marschark & Hauser, 2022). Inclusive education recognizes sign language as central to helping deaf learners construct meaning and engage with their communities, with early exposure shown to enhance linguistic and cognitive development (Humphries et al., 2023).

In the Philippine context, Republic Act 11106 establishes Filipino Sign Language (FSL) as the national sign language; however, its implementation is limited, particularly among parents who are children's primary communication partners (Notarte-Balanquit, 2023; Gonzales & Lontoc, 2023). Existing

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interventions, such as the FSL–Sight Words Program, highlight that parental involvement in sign-supported learning improves vocabulary, comprehension, and expressive language (Luna & Flores, 2022), but these studies primarily focus on school-based programs rather than parent-centered instruction.

In Region I, including Ilocos Norte, Laoag City, and Batac City, few schools integrate FSL instruction, and none provide structured parent training (DepEd Region I, 2023). Parents often rely on improvised gestures, which can cause miscommunication, frustration, and limited engagement. While prior research emphasizes the benefits of multimedia and video-based instruction for enhancing comprehension, retention, and motivation (Plaewfueang et al., 2013; Rahman, 2024), there is a lack of studies that develop culturally relevant, functional FSL video materials specifically for parents.

Observations in SPED centers indicate that parents are motivated to learn FSL but face barriers, including limited visual guidance, a lack of structured materials, and logistical constraints. Teachers also report that communication breakdowns hinder learner engagement, although improvements are observed when parents acquire basic FSL skills—supporting international findings on parental involvement (Galindo-Neto et al., 2019).

Thus, the gap lies in the absence of accessible, parent-focused, video-based FSL materials tailored to local language contexts and practical home use. This study addresses this gap by developing assistive videos on basic survival FSL signs, offering functional, culturally relevant, and easily guided instruction to enhance home–school communication, support early language acquisition, and promote inclusive education, aligned with DepEd's objectives and SDG 4.

Ultimately, this study could respond to persistent communication challenges in Ilocos Norte by providing sustainable, visually engaging, and inclusive resources that strengthen parent–child communication and promote linguistic and social inclusion for children with hearing impairments.

Literature review

This review synthesizes legal, theoretical, and empirical foundations supporting the development of Filipino Sign Language (FSL) on Basic Survival: Assistive Videos for Parents of Hearing-Impaired Children. It emphasizes existing concepts, identifies research gaps, and situates the study within the field of inclusive education.

Legal foundations of Filipino Sign Language

Republic Act No. 11106 (2018) establishes FSL as the national sign language, mandating its use in education, media, and government to ensure accessibility and inclusion. DepEd Orders No. 21, s. 2019, and No. 020, s. In 2025, institutionalize FSL in the K–12 curriculum and designate it as the medium of instruction for deaf learners. These policies align with the UNCRPD and DepEd's Inclusive Education Policy Framework, which promotes equity and participation for learners with disabilities. Despite this legal support, structured FSL resources for parents remain scarce, limiting home-based communication and parental involvement (Notarte-Balanquit, 2023; Bautista, 2022).

Linguistic and communication theories

Humphries et al. (2016) discussed the consequences of linguistic deprivation among deaf children who lack access to sign language during critical developmental periods. Their findings emphasize that early exposure to a natural language—such as sign language—is essential to prevent cognitive and socio-emotional delays. This concept supports the development of FSL-based materials that foster early language interaction between deaf children and their parents.

Multimedia and video-based instruction

Multimodality theory (Jewitt, 2017; Kress, 2020) and multimedia learning principles (Mayer & Moreno, 2003) support the use of videos to integrate visual, auditory, and kinesthetic elements, thereby simulating natural communication and allowing repeated practice. Videos are especially effective for teaching FSL signs, as they demonstrate motion, facial expression, and contextual gestures that static images cannot convey. Prior studies validate sign language–based videos, demonstrating enhanced comprehension, engagement, and learning outcomes (Galindo-Neto et al., 2019; Rahman, 2024; Plaewfueang et al., 2013). However, few resources specifically target parents, leaving a critical gap in home-based FSL support.

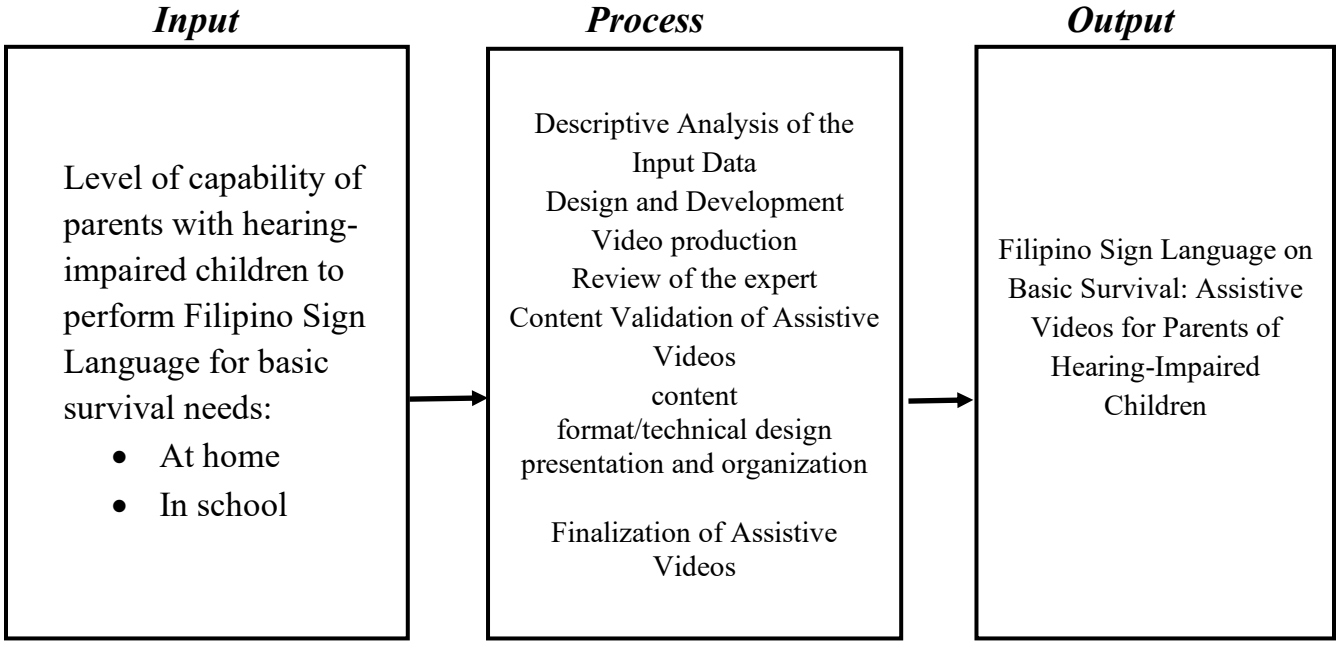
Empirical studies on FSL and parental involvement

Interactive digital tools and video-based programs have improved learning and parental engagement among deaf learners. Samonte (2020) and Abalos et al. (n.d.) reported increased communication effectiveness using FSL platforms, while FSL-SWI interventions improved literacy skills (Madronio et al., 2024). Macadangdang (2021) and Agbay and Padillo (2024) found that parents' limited FSL proficiency and lack of structured resources hindered home support, emphasizing the need for accessible, visually guided, and culturally relevant instructional videos.

Synthesis and research gap

The literature underscores the importance of legal support, theoretical justification, and multimedia strategies in developing FSL resources. Empirical evidence confirms that video-based FSL instruction enhances communication, literacy, and parental engagement. However, there is a lack of structured, parent-centered FSL video materials targeting daily survival communication. This study addresses this gap by designing culturally relevant, accessible, and interactive FSL videos to empower parents, strengthen home–school communication, and advance inclusive education for hearing-impaired learners in Ilocos Norte.

Conceptual framework



Source: Asuncion (2025)

Figure 1. The conceptual framework of the study

The INPUT phase establishes baseline data on parents' capability in using Filipino Sign Language (FSL) for basic survival communication, identifying gaps in knowledge, skills, and confidence in expressing concepts such as food, safety, and emotions. Guided by Communication Accommodation Theory (Giles, 1973), this phase emphasizes adapting communication to align with children's visual-gestural language, informing the content and pacing of the instructional videos.

The PROCESS phase involves systematic development and validation of the videos. Input data are analyzed to determine essential signs, followed by design and development guided by Multimodal Theory (Plaewfueang et al., 2013) and Multimedia Learning Theory (Mayer & Moreno, 2003). Videos integrate visual, auditory, and textual elements to enhance comprehension, engagement, and retention. Expert validation ensures accuracy, relevance, accessibility, and cultural authenticity, with final refinements improving instructional flow and usability.

The OUTPUT phase produces the *Filipino Sign Language on Basic Survival: Assistive Videos for Parents of Hearing-Impaired Children*, a validated resource that strengthens parent–child communication. This output aligns with the inclusive education goals of Republic Act No. 11106 and addresses the linguistic, cognitive, and emotional needs of deaf learners and their families in Ilocos Norte.

Research questions

This study aimed to develop a Filipino Sign Language on Basic Survival: Assistive Videos for Parents of Hearing-Impaired Children.

Specifically, it sought to answer the following questions:

1. What is the level of capability of parents with hearing-impaired children to perform Filipino Sign Language for basic survival needs
   1.1 at home;
   1.2 in school?

2. What can be developed to assist parents in performing Filipino Sign Language for basic survival needs?

3. What is the validity of the materials, in terms of;
   3.1 content;
   3.2 format/technical design; and
   3.3 Presentation and organization?

Research methodology

This chapter covers the following: research design, data sources, study locale, population sampling, instrumentation, and data collection.

Research design

This study employed a Research and Development (R&D) methodology to systematically develop Filipino Sign Language (FSL) assistive videos for parents of hearing-impaired children. Through structured planning, material development, and expert validation, the design ensured that the videos were accurate, functional, and aligned with parents' communication needs in daily home and school contexts.

Population and sampling

The study targeted parents of hearing-impaired children enrolled in SPED programs across the three school divisions of Ilocos Norte. Based on the 2024–2025 enrollment report, 20 parents were identified as eligible through coordination with DepEd officials, SPED coordinators, and teachers. Using total enumeration, all 20 parents participated in the study.

Instrumentation and data collection

Two instruments were employed: a survey questionnaire and a content validation rating scale. The survey assessed parents' FSL capability for basic survival skills using a 3-point scale (1 = Low, 2 = Average, 3 = High). Indicators were thoroughly developed by the researcher and validated by content experts.

The validation rating scale, adapted from the DepEd Region 1 Field Testing Tool (2024), was used by ten FSL experts to evaluate the videos' content, format/technical design, and presentation and organization using a 5-point Likert scale (1 = Not Valid, 5 = Very Highly Valid).

The researcher obtained formal permission before administering the survey to assess parents' Filipino Sign Language (FSL) skills. Survey results were analyzed to identify gaps, which guided the development of the FSL assistive videos. An initial evaluation by a panel-informed revision, followed by expert validation. The materials were then finalized for production.

Tools for data analysis

Parents' FSL capability was analyzed using the following descriptive interpretation of mean scores:

Meanwhile, the validity of the instructional videos was analyzed as follows:

Range of Means	Descriptive Interpretation (DI)
2.51 – 3.00	High (H)
1.51 – 2.50	Average (A)
1.00 – 1.50	Low (L)

Range of Means	Descriptive Interpretation (DI)
4.51 – 5.00	Very Highly Valid (VHV)
3.51 – 4.50	Highly Valid (HV)
2.51 – 3.50	Moderately Valid (MV)
1.51 – 2.50	Slightly Valid (SV)
1.0 – 1.50	Not Valid (NV)

Ethical considerations

The study adhered to ethical standards outlined by DepEd (2017) and the Data Privacy Act (RA 10173). All participants were informed about the study's purpose, procedures, and their rights, and written consent was obtained. Confidentiality and anonymity were maintained, and all responses were securely stored and used exclusively for research purposes. Coordination with school officials ensured smooth logistics for survey administration and validation sessions, and the researcher provided clarifications as needed to enhance the accuracy and reliability of the collected data.

Data presentation and analysis

This section presents the statistical findings obtained from the survey questionnaires. The data are analyzed in relation to the stated problems.

Problem 1: **What is the level of capability of parents with hearing-impaired children to perform Filipino Sign Language for basic survival needs**

1.1 at home;

1.2 for the school?

Table 1. Parents' level of capability to use Filipino Sign Language (FSL) for basic survival needs at home

	Indicator	Mean	DI
1.	I can sign common house types (e.g., bahay, apartment)	1.30	L
2.	I can sign common areas in the house (e.g., kitchen, bedroom, bathroom)	1.25	L
3.	I can sign common objects/household items at home (e.g., chair, table, light)	1.30	L
4.	I can sign immediate family members (e.g., Mother, Father, Brother, Sister, Grandmother, Grandfather	1.40	L
5.	I can sign basic greetings and polite expressions (e.g., Hello, Thank you, Please, Sorry, Goodbye)	1.50	L
6.	I can sign daily activities and needs (e.g., Eat, Drink, Sleep, Play, Go, Stop, More, All done)	1.50	L
7.	I can sign emotions and social interactions (e.g., Happy, Sad, Tired, Love, Like)	1.65	A
8.	I can sign requests for necessities at home, such as food and water.	1.85	A
9.	I can sign household safety signs, such as "fire," "danger," or "help."	1.70	A
10.	I can sign instructions related to hygiene and sanitation (e.g., "wash hands," "use toilet," "take a bath").	1.80	A
11.	I can sign requests for medical needs at home, such as "medicine," "pain," or "doctor."	1.60	A
12.	I can sign emergency phrases used at home, like "call for help," "emergency," or "stay calm."	1.60	A
13.	I can understand my child's signs related to discomfort, hunger, thirst, or illness at home.	1.70	A
14.	I can sign basic household routines such as "eat," "sleep," "clean," or "turn off the lights."	1.80	A
15.	I can sign numbers and time-related signs (e.g., "morning," "night," "soon") to manage daily home activities.	1.70	A
16.	I can communicate effectively with my child using FSL during home emergencies like power outages or accidents.	1.75	A
	Composite mean	**1.59**	**A**

Source: Mohd Haslam Marripan et al. (2023)

Legend:

Range of Means	*Descriptive Interpretation (DI)*
2.51 – 3.00	High (H)
1.51 – 2.50	Average (A)
1.00 – 1.50	Low (L)

Based on Table 1, parents' overall capability in Filipino Sign Language (FSL) for basic survival needs at home was rated as Average (M = 1.59), indicating foundational skills but limited proficiency for varied communication. Parents showed low capability in signing common house types (M = 1.30), house areas (M = 1.25), household objects (M = 1.30), immediate family members (M = 1.40), and basic greetings (M = 1.50), suggesting insufficient vocabulary for everyday home interactions.

In contrast, average capability was observed in signing emotions (M = 1.65), requests for necessities (M = 1.85), safety signs (M = 1.70), hygiene instructions (M = 1.80), and emergency phrases (M = 1.60), reflecting greater proficiency in handling urgent or caregiving-related situations. Parents also demonstrated a moderate understanding of signs of discomfort, hunger, or illness (M = 1.70), highlighting their prioritization of critical communication aligned with caregiving responsibilities.

Table 2. Parents' level of capability to perform Filipino Sign Language (FSL) for basic survival needs at school

INDICATORS	M	DI
1. I can sign basic school-related needs such as "teacher," "class," "homework," or "break time."	1.45	L
2. I can sign requests for help or assistance while my child is at school (e.g., "emergency," "call me").	1.50	L
3. I can sign instructions related to school safety, such as "fire drill," "stay quiet," or "line up."	1.65	A
4. I can understand my child's signs about school-related needs or problems.	1.70	A
5. I can sign transportation-related signs like "bus," "ride," or "go home."	1.50	L
6. I can communicate effectively with my child about their daily school routine using FSL.	1.60	A
Composite mean	**1.57**	**A**

Source: Mohd Haslam Marripan et al. (2023)

Legend:

Range of Means	*Descriptive Interpretation (DI)*
2.51 – 3.00	High (H)
1.51 – 2.50	Average (A)
1.00 – 1.50	Low (L)

Table 2 shows that parents' overall capability in Filipino Sign Language (FSL) for basic survival needs in the school context was Average (M = 1.57), indicating moderate ability to communicate school-related concerns but limited proficiency for broader academic and social interactions.

Parents demonstrated low capability in signing basic school vocabulary, such as "teacher," "class," "homework," or "break time" (M = 1.45), requesting assistance at school (M = 1.50), and using

transportation-related signs (M = 1.50), reflecting limited tools for active involvement in their child's educational routines.

Average capability was observed in signing school safety instructions (M = 1.65), understanding their child's school-related concerns (M = 1.70), and communicating daily routines (M = 1.60), showing focus on urgent and practical communication needs, consistent with their home FSL use.

Problem 2. What can be developed to assist parents in performing Filipino Sign Language for basic survival needs?

In response to the identified needs of parents of children with hearing impairment, the Filipino Sign Language (FSL) on Basic Survival was developed as an assistive tool. The study revealed that parents have limited ability to use FSL for everyday household and school communication, which guided the creation of a guide focused on simple, functional, and survival-oriented vocabulary.

Based on these findings, the FSL Basic Survival Guide was designed to help parents communicate effectively, strengthen emotional bonds, and promote the safety and inclusion of their children in diverse settings. The material is available in MP4 format, accessible via URL and QR code.

Problem 3. What is the validity of the materials, in terms of;

3.3.1 content;
3.3.2 format/technical design; and
3.3.3 Presentation and organization?

Table 6. Summary of experts' evaluation on the validity of FSL on basic survival assistive videos for parents of hearing-impaired children

Component	Composite Mean	DI
1. Content	4.52	VHV
2. Format/Technical Design	4.50	HV
3. Presentation and Organization	4.70	VHV
Overall Mean	**4.57**	**VHV**

Source: DepEd Region 1, Regional Memorandum No. 969, s. 2024

Legend:

Range of Means	*Descriptive Interpretation*
4.51 – 5.00	Very Highly Valid (VHV)
3.51 – 4.50	Highly Valid (HV)
2.51 – 3.50	Moderately Valid (MV)
1.51 – 2.50	Slightly Valid (SV)
1.00 – 1.50	Not Valid (NV)

As shown in Table 6, the FSL assistive videos achieved an overall mean of 4.57, interpreted as Very Highly Valid (VHV), indicating that they are pedagogically sound, technically reliable, and well-

organized. Component means ranged from 4.50 to 4.70 (HV–VHV), demonstrating consistent educational validity across content, technical design, and presentation.

The content component (M = 4.52, VHV) confirms that the videos are accurate, relevant, and developmentally appropriate, providing practical guidance for parents in teaching basic survival skills through FSL. The format/technical design (M = 4.50, HV) indicates clear audio, suitable pacing, and well-integrated multimedia elements. In contrast, presentation and organization (M = 4.70, VHV) reflect logical sequencing, engaging delivery, and vocabulary aligned with parents' comprehension levels.

Discussion

The results of this study provide an in-depth understanding of parents' capability to use Filipino Sign Language (FSL) for basic survival communication and demonstrate the value of developing targeted instructional videos to support their learning.

Assessment of FSL proficiency shows that parents have low capability in routine household and interpersonal skills, including household areas, objects, family members, greetings, and daily activities. This difficulty in navigating ordinary conversations aligns with findings from Mitchell and Karchmer (2021), who reported that hearing parents without formal training struggle with foundational sign vocabulary and often learn informally. However, parents in this study demonstrated average proficiency in caregiving and survival-related signs—such as emotions, hygiene, emergencies, and requests for basic needs—which reflects existing evidence that hearing parents first acquire vocabulary that is immediately relevant to caregiving and home routines (Madronio et al., 2024; Garcia & Pineda, 2022).

A similar pattern appeared in school-related communication. Parents struggled with academic vocabulary and routine instructional signs but showed average ability in communicating safety instructions, daily routines, and basic school concerns. These findings parallel the conclusions of Cawthon and Garberoglio (2019), who emphasized that effective school–home partnerships for deaf learners require broader academic and emotional vocabulary areas where parents often lack competence. Moores (2020) likewise observed that a limited sign vocabulary restricts parents' participation in their child's learning and overall educational engagement.

To address these gaps, the study developed FSL Basic Survival instructional videos designed around practical, frequently encountered interactions at home and in school. The content reflects parents' everyday communication needs, making the materials immediately usable. This approach echoes earlier research showing that targeted, functional sign language resources significantly improve vocabulary acquisition and confidence among hearing parents (Garcia & Pineda, 2022; Madronio et al., 2024).

Expert evaluation rated the videos Very Highly Valid, confirming strong content, organization, technical design, sign accuracy, fluency, and presentation of non-manual markers. These outcomes align with multimedia learning research, which emphasizes that clear structure, coherent content, and accessible visuals enhance comprehension and engagement (Mayer, 2021; Humphries et al., 2016; Garcia & Flores, 2022; Zhao et al., 2023). The consistently high ratings affirm that contextually relevant, well-produced

multimedia materials serve as practical instructional tools for parents of children with hearing impairments.

This study confirms that while parents possess functional signing skills related to caregiving and emergency communication, their limited broader vocabulary constrains more nuanced interactions with their children. Consistent with prior studies, these results highlight the need for structured interventions and accessible learning tools to strengthen parent–child communication and support inclusive home and school environments (Moores, 2020; Garcia & Pineda, 2022; Cawthon & Garberoglio, 2019). The validated FSL Basic Survival instructional videos provide a practical and credible solution to address these learning gaps and enhance parents' FSL competence in everyday contexts.

Conclusion

This study demonstrated that parents of children with hearing impairments have limited proficiency in Filipino Sign Language (FSL) for routine home and school vocabulary but exhibit functional competence in caregiving, safety, hygiene, and emergency-related signs. These findings highlight the prioritization of practical, survival-oriented communication, confirming theoretical perspectives from Communication Accommodation Theory, which emphasizes adapting communication to immediate needs, and Multimedia Learning Theory, which supports the use of multimodal resources for effective skill acquisition.

The development and validation of FSL Basic Survival instructional videos provide a practical, evidence-based tool that strengthens parent–child communication, promotes inclusion, and enhances daily caregiving and school engagement. The study contributes new knowledge by demonstrating the effectiveness of targeted, contextually relevant multimedia resources in bridging parental skill gaps in FSL, supporting both functional language learning and inclusive home–school interactions.

Given the limited general vocabulary observed, it is urgently recommended that parents engage in structured, ongoing FSL training using accessible resources such as these instructional videos. Future interventions should expand content to include broader academic, social, and emotional vocabulary and assess long-term impact on parental competence and children's inclusive development.

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