



STATUS AND CHALLENGES OF HEARING-IMPAIRED STUDENTS: FRAMEWORK FOR INSTRUCTIONAL DEVELOPMENT PROGRAM IN SPECIAL EDUCATION

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Abstract

This study examined the experiences of hearing-impaired students in an inclusive learning environment at Bataan National High School–Junior High School during School Year 2025–2026, as the basis for developing an instructional development program. A convergent parallel mixed-methods design was used, combining a researcher-constructed Likert-scale questionnaire with a structured focus group discussion. Respondents were 14 junior high school students with varying degrees and types of hearing loss, selected through purposive sampling. Data were analyzed using descriptive statistics, the Mann-Whitney U and Kruskal-Wallis tests, and thematic analysis. Results showed that students perceived moderate access to learning materials, high teacher support, and moderately met academic and emotional needs; the environment was generally supportive but not fully inclusive. Group comparisons showed no statistically significant differences in challenges by hearing functionality or type of hearing loss, except that personal and demographic factors showed larger, though still non-significant, mean differences by functionality. Qualitative findings pointed to persistent barriers — reliance on oral instruction, inadequate visual resources, limited availability of interpreters, restricted peer contact, and teachers' limited proficiency in Filipino Sign Language — alongside students' calls for visual-based instruction, consistent accommodations, and a more hearing-impaired-friendly school culture. The study concludes that while inclusive practices exist at Bataan National High School–Junior High School, significant gaps remain in instructional delivery, communication support, and environmental inclusivity. An instructional development program is recommended to strengthen teacher training, provide assistive resources, enhance social integration, and cultivate a school culture responsive to the needs of hearing-impaired students, in support of equitable access to quality education.

Keywords: *hearing impairment; inclusive education; accessibility; teacher support; hearing-impaired students; instructional development; mixed-methods*



INTRODUCTION

Inclusive education rests on the principle that students of differing abilities should learn together in the same setting, with the support each needs to succeed, and that classroom diversity enriches the learning experience of all students (UNESCO, 2021). Realizing this principle requires schools to adapt teaching strategies, curricula, and classroom structures; to deploy assistive technologies such as speech-to-text software and adaptive learning tools; and to train teachers to meet diverse learning needs (UNESCO, 2021). It further requires accommodations such as sign language interpreters, assistive listening devices, and modified instructional materials, embedded within a school culture of acceptance, respect, and understanding (Ainscow, 2020).

For hearing-impaired students, however, inclusion in practice often falls short of this ideal. Alasim (2020) found that the appropriate educational placement of hearing-impaired learners in Saudi Arabia remains a complex, unresolved issue, with teachers' capacity to lead instruction in inclusive classrooms a persistent concern that echoes across national contexts. At the same time, positive relationships between hearing-impaired and hearing students are achievable under the right conditions: Yusuf (2021) reported that hearing-impaired students in general education often develop strong, mutually respectful relationships with hearing classmates when properly supported, which helps build the sense of belonging on which inclusion depends. Where support is absent, however, the consequences are considerable — Tedla and Batista (2023) documented complex, deeply embedded barriers to the academic development and inclusion of hearing-impaired students, foremost among them the lack of effective in-classroom communication, and Tedla (2019) linked the resulting lack of understanding within the hearing academic community to marginalization and isolation with lasting effects on students' well-being.

Regional evidence suggests that inclusivity for hearing-impaired learners varies considerably even within similar policy environments. In Indonesia, students transitioning from special schools to inclusive settings faced difficulties with social integration and curriculum modification, with peer support and teacher intervention proving decisive for their academic progress (Agustin, 2022). In Thailand, broader access to inclusive education has not been matched by teachers' sign language knowledge, which remains a persistent gap (Suwanarak, 2021). In the Philippines, Cabreros (2020) linked resource shortages and a shortage of trained teachers to slower language development among hearing-impaired students, underscoring the need for context-specific policy support. The Philippine government has responded through Republic Act No. 11650, the Inclusive Education Act for Learners with Disabilities, and through Department of Education Order No. 44, s. 2024, both of which aim to strengthen inclusive education policy and support systems in public schools; yet policy intent does not automatically translate into classroom-level practice (Bernardo & Mendoza, 2021).

Much of the available literature emphasizes academic barriers, but social and emotional difficulties— isolation and diminished self-esteem among them — also significantly shape hearing-impaired students' learning experience (Reed et al., 2020). Region-specific research remains limited, constraining understanding of how local factors such as community awareness and school infrastructure shape inclusive education in provincial settings such as Bataan. At Bataan National High School–Junior High School, hearing-impaired students face difficulties consistent with this broader picture: assistive learning tools and sign language interpreters are not readily available, individualized instructional plans are limited, and most hearing students lack sign language proficiency, which together constrain classroom engagement and social integration — even as the school has begun introducing visual aids, teacher-training initiatives, and awareness campaigns to narrow these gaps.

It is against this backdrop that the present study was undertaken. Recognizing the persistent gap between the policy of inclusive education and its practice in the classroom, this study sought to describe the status of hearing-impaired students at Bataan National High School–Junior High School and to use their experiences as the empirical basis for an instructional development program specifically designed to support their needs — one intended to inform strategies and practices that extend equal educational opportunity to hearing-impaired learners in mainstream classrooms.



Theoretical Framework

Three complementary theories frame this study's understanding of how hearing-impaired students learn and develop within inclusive settings. Vygotsky's (1934) Sociocultural Theory holds that cognitive development is fundamentally social, mediated through interaction with more capable others; its concept of the Zone of Proximal Development is particularly relevant here, as it explains how hearing-impaired students can extend their understanding and skills when peers, teachers, and family provide appropriate scaffolding — a rationale for including hearing-impaired students in general classrooms where such scaffolding is available. Bronfenbrenner's (1979) Ecological Systems Theory situates the student within nested, interacting systems — the immediate microsystem of family, school, and peer group, and the broader systems of policy and community — and directs attention to how institutional support, home-school relationships, and enabling policy jointly shape the accessibility and effectiveness of inclusion. Bandura's (1977) Social Learning Theory, finally, emphasizes learning through observation, modeling, and the development of self-efficacy; applied to inclusive classrooms, it suggests that hearing-impaired students build confidence and competence partly by observing hearing peers and positive role models, provided the classroom climate is one in which they feel valued and encouraged to participate. Taken together, these theories support a view of inclusion as more than physical co-placement: meaningful interaction, systemic support, and opportunities for observational learning must converge for hearing-impaired students to develop academically and socially within mainstream classrooms.

Related Literature

Four themes recur across the literature on the challenges hearing-impaired students face in inclusive settings: teacher support, accessibility, students' broader needs, and the learning environment.

Teacher support and instructional strategy shape hearing-impaired students' performance and engagement directly. Knoors and Marschark (2020) found that students fare better when their teachers receive specific training in deaf education, including sign language proficiency, differentiated instruction, and visual learning strategies; co-teaching models that pair mainstream and specialist teachers have likewise been shown to strengthen inclusion (Erting & Pfau, 2019), and mentorship and structured peer interaction have supported confidence and academic performance in other systems (Takayama, 2021). In the Philippines, teacher-training programs have begun to incorporate Filipino Sign Language (FSL) and inclusive pedagogy (Santos, 2022), yet Humphries et al. (2016) note that many mainstream teachers still lack basic sign language competence, a gap that Samaniego and Roa (2021) link to persistent difficulty applying differentiated instruction for hearing-impaired learners in the absence of adequate training and tools. Guardino and Cannon (2021) similarly found that co-teaching between general and special educators produces more favorable classroom accommodations and outcomes, while Bat-Chava (2019) observed that students with stronger teacher support show greater motivation and engagement — underscoring that relationship-building, not only instructional technique, is central to teacher support.

Students' needs extend beyond the academic to the social, emotional, and cognitive. Napier et al. (2020) emphasized attending to hearing-impaired learners' mental health alongside their educational needs, noting that counseling services, peer-support groups, and structured extracurricular activities support better outcomes; individualized education plans have served a similar function in Scandinavian systems (Johnsson et al., 2021). Social inclusion is a related and equally important need: Hall and Smith (2021) found that deaf-culture-awareness initiatives help narrow the gap between hearing and hearing-impaired students, particularly when hearing peers are encouraged to learn basic sign language. In the Philippines, Special Education (SPED) programs and DepEd resource centers have begun to provide interpreters and assistive technologies (Garcia, 2023), though access to these services in underserved communities remains uneven.

The learning environment — physical, social, and instructional — likewise bears directly on achievement. Visually accessible environments support hearing-impaired students by reinforcing communication and reducing



reliance on auditory information (Luckner & Ayantoye, 2021); internationally, open-space classrooms, considered lighting, and organized seating have been found to aid communication and comprehension (Hyde et al., 2022), while collaborative learning that brings hearing and hearing-impaired students together has produced positive social and academic outcomes in Latin American schools (Mendez & Lopez, 2022). In the Philippine setting, some schools have adopted visual instruction and Filipino Sign Language as a medium of instruction for deaf learners (Reyes, 2023), though scaling these practices to mainstream classrooms remains an ongoing challenge.

A further body of work situates these classroom-level findings within a wider institutional and policy context. Kusters et al. (2024), in a large cross-national study, found that although inclusive education is formally adopted in many countries, its implementation remains uneven in the absence of standardized principles, accountable practice, and adequate teacher preparation — producing markedly different experiences for otherwise similarly classified students depending on the resources and personnel available to them. Consistent with this, published evidence indicates that institutions with clear inclusion policies, adequate funding, and faculty buy-in tend to produce more favorable outcomes for hearing-impaired students, including stronger academic performance and participation where interpreters, captioned materials, and educator training are in place. Mercado (2020) observed that despite legal mandates, many Philippine public schools struggle to meet these requirements because of inadequate resources, limited access to support, and insufficient teacher training in Filipino Sign Language — a pattern corroborated by Dela Fuente (2021), who found that most public-school teachers in the Philippines have received no formal FSL training, and by Alanazi (2021), who reported comparable gaps in sign-language skill and pedagogical competence among Saudi university faculty responsible for hearing-impaired students.

Technology has been proposed as one route to narrowing these gaps, though its promise is bounded by resourcing. Speech-to-text applications, captioning tools, and interactive learning systems can meaningfully improve classroom interaction for hearing-impaired learners, but financial constraints and the digital divide — particularly in under-resourced schools — frequently limit their implementation, a pattern Reyes (2021) confirmed in the Philippine setting, where insufficient funding and teacher training curb the effective use of assistive technology even where it is available. Peer relationships present a parallel challenge: Maguate (2023) and Dela Cruz (2022) both found that hearing-impaired students struggle to build peer relationships in general classrooms because of communication barriers and hearing students' limited sign language skills, and both studies point to peer-education programs, sign language workshops, and inclusive extracurricular activities as promising responses. Collectively, Philippine-specific studies converge on a common set of systemic issues — the scarcity of FSL-trained teachers, the shortage of interpreters, and limited access to assistive learning tools (Dela Fuente, 2021; Mercado, 2020; Reyes, 2021) — that point to the need for a locally grounded instructional development program of the kind this study sought to build.

Hearing Status: Functionality and Type of Hearing Loss

This study classified respondents' hearing status along two dimensions. By functionality, profound hearing loss denotes an inability to perceive most speech and reliance on visual channels of communication such as sign language and lip-reading, while severe hearing loss denotes significant difficulty perceiving speech — including with hearing aids — particularly in noisy settings (Cho, 2022). By type, conductive hearing loss arises from impaired sound transmission through the outer or middle ear and is frequently amenable to medical or surgical treatment (Arslan, 2025); sensorineural hearing loss results from damage to the inner ear or auditory nerve and is typically permanent, managed through amplification, cochlear implants, and auditory-verbal therapy (Ren, 2022); central hearing loss arises from impaired auditory processing in the brain rather than the ear itself and requires specialized therapeutic rather than amplificatory intervention (Moon, 2024); and functional (psychogenic) hearing loss presents without an identifiable organic cause and is typically addressed through counseling and multidisciplinary psychological support rather than audiological intervention alone (Prekopp, 2023).



Statement of the Problem

This study sought to describe the challenges of hearing-impaired students in inclusive education at Bataan National High School–Junior High School during School Year 2025–2026, as a basis for an instructional development program. Specifically, it addressed the following questions:

1. How may the respondents be described in terms of age, sex, grade level, and family economic status?
2. How may the hearing status of the respondents be described in terms of (a) functionality (profound, severe) and (b) type of hearing loss (conductive, sensorineural, central, functional)?
3. How may the challenges faced by hearing-impaired students be described in terms of accessibility to learning, teachers' support, students' needs, and the learning environment?
4. Is there a significant difference in the challenges experienced by students when grouped according to hearing status?
5. What are the experiences of hearing-impaired students in inclusive education?
6. Based on the findings, what instructional development program may be proposed?
1. The study is anchored on the null hypothesis that there is no significant difference in the challenges faced by students across hearing-status groups.



METHODS

Research Design

The study used a convergent parallel mixed-methods design, in which quantitative and qualitative data were collected during the same phase, analyzed separately, and then merged at the interpretation stage to produce a comprehensive account of the research problem (Subedi, 2023; Wasti et al., 2022). The quantitative strand gathered statistical information on students' profiles and their perceived challenges through a structured questionnaire, analyzed using descriptive statistics; the qualitative strand used semi-structured focus group discussions to capture experiences, feelings, and attitudes not readily captured by numerical data (Boivin, 2021). Integrating the two strands enabled data triangulation and allowed the study to address both the extent and the nature of the challenges hearing-impaired students face (Boivin, 2021; Subedi, 2023).

Respondents

The respondents were all 14 hearing-impaired students enrolled at Bataan National High School–Junior High School during School Year 2025–2026, selected through purposive sampling. Because the target population was small and each member possessed characteristics directly relevant to the study's objectives, purposive sampling allowed the researcher to gather detailed, first-hand data on the experiences of hearing-impaired learners in this specific inclusive setting.

Instrumentation

Data were collected using two researcher-developed instruments. The first was a survey questionnaire consisting of a demographic profile section (age, sex, grade level, family economic status, hearing functionality, and type of hearing loss) followed by 30 Likert-scale statements — rated from Strongly Disagree to Strongly Agree — organized into six domains: accessibility to learning materials; teacher support and instructional strategies; school accommodations and programs (inclusivity); emotional and psychological support; impact of hearing condition; and personal and demographic factors. The second instrument was a Focus Group Discussion (FGD) guide covering seven segments — accessibility to learning, teachers' support, students' academic and emotional needs, learning environment, the influence of hearing status on learning, the intersection of student profile with inclusive-education issues, and final comments and recommendations — designed to elicit participants' personal experiences and suggestions in greater depth.

Instrument construction drew on a review of the relevant literature together with the researcher's professional observation. Face and content validity were established through evaluation by a panel comprising a grammar expert, an education supervisor, and a school administrator. Internal consistency was assessed through Cronbach's alpha, computed after the instrument was administered to the 14 respondents, and the instrument was revised as needed based on the reliability results and panel feedback.

Data Gathering Procedure

Data collection proceeded in accordance with the university's ethical requirements and the Schools Division's established protocols. Approval was secured from the thesis adviser, the Dean of the Graduate School, and the Office of the Schools Division Superintendent, and formal written permission was obtained from the school principal. Participants were briefed on the study's purpose and procedures, and informed consent was obtained prior to their involvement; participation was voluntary, and participants' privacy and confidentiality were protected throughout. Printed questionnaires were distributed with the support of the Schools Division Superintendent and the school principal, and respondents were given three weeks to complete them before the researcher collected the instruments and proceeded to focus group discussion.



Data Analysis

Quantitative data were coded and processed using Microsoft Excel and IBM SPSS. Frequency and percentage distributions described the respondents' demographic profile; mean scores and standard deviations, interpreted against a five-level descriptive scale (Strongly Disagree to Strongly Agree, mapped to "very much a challenge" through "not a challenge"), described the level of challenge in each domain. Because the data were ordinal and did not meet the assumption of normality, group comparisons used the Mann-Whitney U test (for the two functionality groups, profound and severe) and the Kruskal-Wallis H test (for the four hearing-loss-type groups), with significance set at $\alpha = .05$.

Qualitative data from the focus group discussion were analyzed using Braun and Clarke's thematic-analysis framework: familiarization with the data, generation of initial codes, identification and review of themes, definition and naming of themes, and production of the final narrative. Coding was conducted manually to preserve close contact with participants' own words and the contextual meaning of their responses. All participants provided informed consent, and the study was conducted in accordance with ethical guidelines for research involving vulnerable populations, including protection of confidentiality and the right to voluntary withdrawal (Nair, 2020).



RESULTS

Profile of Respondents

Most respondents (57.14%, $n = 8$) were 16 to 17 years old, with the remainder evenly split between the 14–15 and 18-and-above brackets (21.43% each). Female respondents (57.14%, $n = 8$) slightly outnumbered male respondents (42.86%, $n = 6$). By grade level, Grade 9 accounted for the largest share (42.86%, $n = 6$), followed by Grade 10 (35.71%, $n = 5$) and Grade 8 (21.43%, $n = 3$). Most respondents came from low-income households (57.14%, $n = 8$), with the remainder from middle-income households (42.86%, $n = 6$); no respondent belonged to a higher-income bracket. This concentration in lower-income households is consistent with Mercado (2020) and Reyes (2021), who linked economic constraints to reduced access to assistive devices and specialized educational support in Philippine schools, and it plausibly bears on the moderate ratings for accessibility and assistive-technology indicators reported below.

Hearing Status

Respondents were evenly split by functionality, with seven (50.00%) classified as profound and seven (50.00%) as severe; none was classified as mild or moderate. By type of hearing loss, sensorineural loss was most common (42.86%, $n = 6$), followed by conductive (35.71%, $n = 5$), functional (14.29%, $n = 2$), and central (7.14%, $n = 1$). This concentration at the more severe end of the hearing-loss spectrum is consistent with Alanazi (2021) and Dela Fuente (2021), who associated higher levels of hearing impairment with greater communication difficulty in inclusive classrooms, though — as the group comparisons below indicate — medical classification alone did not fully determine students' reported experience.

Challenges Faced by Hearing-Impaired Students

Accessibility and Learning Materials

Table 1. Challenges in Accessibility and Learning Materials

Indicator	M	SD	Descriptive Rating
I can easily access learning materials suited to my needs.	3.36	1.28	Neutral
The school provides assistive technologies (e.g., hearing aids, captioning) for my learning.	3.14	1.29	Neutral
I can follow instructions without difficulty in class activities.	2.93	0.92	Neutral
I have access to specialized instructional materials (e.g., sign language resources, visual aids).	3.64	1.22	Agree
Overall	3.27	0.75	Moderately a challenge



Note. Scale: 4.20–5.00 Strongly Agree/Not a challenge; 3.40–4.19 Agree/Less of a challenge; 2.60–3.39 Neutral/Moderately a challenge; 1.80–2.59 Disagree/A challenge; 1.00–1.79 Strongly Disagree/Very much a challenge.

The composite mean of 3.27 (SD = 0.75) indicates that accessibility and learning materials were, on balance, a moderate challenge. Access to specialized instructional materials, such as sign language resources and visual aids, drew the most favorable rating ($M = 3.64$), while the ability to follow instructions during class activities drew the least favorable ($M = 2.93$) — suggesting that while specialized materials are reasonably available, real-time classroom communication remains difficult. This pattern is consistent with Li (2024), who noted that assistive technologies can meaningfully improve classroom interaction but that their adoption is often constrained by financial and infrastructural limits, and with Reyes (2021), who linked Philippine schools' limited adoption of speech-to-text and captioning tools to inadequate funding and teacher training.

Teacher Support and Instructional Strategies

Table 2. Challenges in Teacher Support and Instructional Strategies

Indicator	M	SD	Descriptive Rating
I receive sufficient support in understanding classroom discussions.	3.93	0.73	Agree
There are available interpreters or alternative communication tools in my classes.	3.50	0.85	Agree
Teachers use teaching strategies that accommodate my hearing condition.	3.36	1.08	Neutral
My teachers are trained in handling students with hearing impairments.	3.93	1.14	Agree
My teachers are patient and understanding in addressing my learning challenges.	3.93	1.00	Agree
My teachers provide additional assistance when I have difficulties in class.	3.50	0.94	Agree
I feel included and valued in classroom discussions because of my teachers' support.	4.00	0.78	Agree
Composite	3.73	0.57	Less of a challenge



Note. Scale: 4.20–5.00 Strongly Agree/Not a challenge; 3.40–4.19 Agree/Less of a challenge; 2.60–3.39 Neutral/Moderately a challenge; 1.80–2.59 Disagree/A challenge; 1.00–1.79 Strongly Disagree/Very much a challenge.

The composite mean of 3.73 (SD = 0.57) indicates that teacher support was, on balance, less of a challenge, with a comparatively small standard deviation suggesting a consistent, shared perception across respondents. Feeling included and valued because of teachers' support drew the highest rating ($M = 4.00$); the use of teaching strategies specifically accommodating students' hearing condition drew the lowest ($M = 3.36$), remaining in the neutral range. Taken together, these results suggest that teacher empathy and general supportiveness are strong, while structured, technical instructional adaptation is applied less consistently — a pattern that echoes Kusters et al. (2024), who found inclusive-pedagogy training to be applied unevenly even where institutional commitment to inclusion exists.

School Accommodations and Programs (Inclusivity)

Table 3. Challenges in School Accommodations and Programs

Indicator	M	SD	Descriptive Rating
My academic needs are adequately addressed in the inclusive education setting.	3.71	1.20	Agree
The classroom environment is conducive to my learning as a hearing-impaired student.	4.00	1.04	Agree
The school provides inclusive programs that promote interaction between hearing and hearing-impaired students.	3.21	1.58	Neutral
I feel safe and comfortable in the school environment.	3.21	1.05	Neutral
The school provides proper accommodations for my condition (e.g., extra time on tasks, note-takers).	3.50	1.16	Agree
Overall	3.53	0.70	Less of a challenge

Note. Scale: 4.20–5.00 Strongly Agree/Not a challenge; 3.40–4.19 Agree/Less of a challenge; 2.60–3.39 Neutral/Moderately a challenge; 1.80–2.59 Disagree/A challenge; 1.00–1.79 Strongly Disagree/Very much a challenge.

The overall mean of 3.53 (SD = 0.70) indicates that school accommodations and inclusivity efforts were seen, on balance, as adequately meeting students' needs. Classroom conduciveness to learning drew the highest rating ($M = 4.00$); school-wide inclusive programs promoting hearing/hearing-impaired interaction and students' sense of safety and comfort drew the lowest and most variable ratings ($M = 3.21$ each, with $SD = 1.58$ for inclusive programs). This indicates that classroom-level accommodation is comparatively strong while broader, school-wide inclusion programming is less consistently experienced — consistent with Maguate (2023) and Dela Cruz



(2022), who documented persistent peer-interaction barriers linked to communication gaps, and with the broader finding that institutional inclusion depends on systematic, school-wide programs rather than classroom accommodation alone.

Emotional and Psychological Support

Table 4. Challenges in Emotional and Psychological Support

Indicator	M	SD	Descriptive Rating
I feel that my emotional and psychological needs are supported in school.	3.71	1.20	Agree
My individual learning preferences are considered in class activities.	3.93	0.83	Agree
There are minimal distractions that affect my ability to focus in class.	3.29	0.83	Neutral
My classmates are aware of and respect my communication needs.	3.93	0.83	Agree
Composite	3.71	0.47	Less of a challenge

Note. Scale: 4.20–5.00 Strongly Agree/Not a challenge; 3.40–4.19 Agree/Less of a challenge; 2.60–3.39 Neutral/Moderately a challenge; 1.80–2.59 Disagree/A challenge; 1.00–1.79 Strongly Disagree/Very much a challenge.

The composite mean of 3.71 (SD = 0.47) — the lowest standard deviation among the six domains — indicates a consistently positive perception of emotional and psychological support. The lowest-rated indicator concerned classroom distractions affecting focus (M = 3.29, Neutral), suggesting that environmental or classroom-level distractions persist even where emotional support is otherwise perceived as adequate. Unlike Alanazi (2021) and comparable findings at the tertiary level, which reported significant social isolation among hearing-impaired students, these junior-high-school respondents reported comparatively strong peer respect and inclusion — suggesting that emotional inclusion may be more attainable at the secondary level, and underscoring the value of early, sustained intervention.

Impact of Hearing Condition

Table 5. Challenges Related to the Impact of Hearing Condition

Indicator	M	SD	Descriptive Rating
My level of hearing loss does not affect my ability to participate in class discussions.	3.29	0.83	Neutral
My type of hearing loss does not impact my understanding of lessons.	2.86	1.03	Neutral
I do not struggle more in subjects that require extensive listening activities.	3.07	0.92	Neutral
My hearing condition does not make it difficult to communicate with teachers and classmates.	2.43	1.02	Disagree
Composite	2.91	0.58	Moderately a challenge

Note. Scale: 4.20–5.00 Strongly Agree/Not a challenge; 3.40–4.19 Agree/Less of a challenge; 2.60–3.39 Neutral/Moderately a challenge; 1.80–2.59 Disagree/A challenge; 1.00–1.79 Strongly Disagree/Very much a challenge.

This domain produced the lowest composite mean of the six ($M = 2.91$, $SD = 0.58$), indicating that the functional impact of hearing loss remains a moderate-to-significant challenge despite the generally favorable ratings for teacher and emotional support. The item concerning difficulty communicating with teachers and classmates drew the least favorable rating of any item in the instrument ($M = 2.43$, Disagree — i.e., students disagreed that their hearing condition does not complicate communication), firmly identifying communication as the most persistent barrier these students face, a finding consistent with Alanazi (2021), Reyes (2021), and Dela Fuente (2021), and with Kusters et al.'s (2024) observation that inclusion without structured communication-accessibility mechanisms cannot fully remove learning barriers.

Personal and Demographic Factors

Table 6. Challenges Related to Personal and Demographic Factors

Indicator	M	SD	Descriptive Rating
I require special accommodations to keep up with my peers.	3.43	1.28	Neutral
My age affects how I adjust to learning in an inclusive setting.	3.43	1.22	Neutral

Indicator	M	SD	Descriptive Rating
My gender influences the support I receive in the classroom.	3.50	1.09	Agree
My grade level determines the level of academic challenges I face.	3.14	1.29	Neutral
My family's financial situation impacts my access to assistive devices.	3.43	1.09	Neutral
The level of support I receive at home influences my performance in school.	3.93	1.14	Agree
Overall	3.48	0.62	Moderately a challenge

Note. Scale: 4.20–5.00 Strongly Agree/Not a challenge; 3.40–4.19 Agree/Less of a challenge; 2.60–3.39 Neutral/Moderately a challenge; 1.80–2.59 Disagree/A challenge; 1.00–1.79 Strongly Disagree/Very much a challenge.

The overall mean of 3.48 (SD = 0.62) indicates a moderate challenge overall, with the influence of home support on school performance rated most favorably (M = 3.93) and the influence of grade level on academic challenge rated least favorably (M = 3.14). The prominence of home support is consistent with Mercado (2020), who emphasized family involvement as central to supporting hearing-impaired students, while the moderate impact of financial status corroborates Reyes (2021) on the role of economic constraints in access to assistive devices — though the moderate, rather than extreme, ratings observed here suggest a degree of resilience among these respondents relative to more severe deprivation reported elsewhere.

Summary of Challenges

Table 7. Summary of Challenges Faced by Hearing-Impaired Students

Domain	Mean	Rank	Interpretation
Teacher support	3.73	1	Less of a challenge
Emotional support	3.71	2	Less of a challenge
School accommodation	3.53	3	Less of a challenge
Personal factors	3.48	4	Moderately a challenge



Domain	Mean	Rank	Interpretation
Accessibility	3.27	5	Moderately challenge ^a
Impact of hearing condition	2.91	6	Moderately challenge ^a
Overall	3.44	—	Moderately challenge ^a

Across the six domains, the overall mean level of challenge was 3.44, indicating a moderate challenge on average. Teacher support, emotional support, and school accommodation ranked highest — all rated less of a challenge — reflecting comparatively strong interpersonal support and institutional provision. Personal factors, accessibility, and the impact of hearing condition ranked lowest, all rated moderately challenging, with the functional impact of hearing loss the single most problematic domain regardless of the support systems otherwise in place. This ordering — strong relational support paired with persistent structural and communication-related barriers — frames the priorities for the instructional development program proposed in the Discussion below.

Comparison of Challenges by Hearing Status

Table 8. Comparison of Challenges by Hearing Functionality (Mann-Whitney U)

Domain	Profound M	Severe M	U	p	Decision
Accessibility	3.07	3.46	18.5	.478	Do not reject H ₀ (not significant)
Teacher support	3.71	3.76	19.0	.518	Do not reject H ₀ (not significant)
School accommodation	3.40	3.66	18.5	.477	Do not reject H ₀ (not significant)
Emotional support	3.54	3.89	13.0	.152	Do not reject H ₀ (not significant)
Impact of condition	3.07	3.11	25.5	.948	Do not reject H ₀ (not significant)
Personal factors	3.21	3.74	12.0	.123	Do not reject H ₀ (not significant)

Domain	Profound M	Severe M	U	p	Decision
Overall	3.34	3.60	15.0	.259	Do not reject H_0 (not significant)

Note. Profound $n = 7$; Severe $n = 7$. $\alpha = .05$.

No statistically significant difference was found between students with profound and severe hearing loss on any domain (all $p > .05$); the null hypothesis was retained throughout. Students with severe hearing loss consistently rated challenges somewhat higher than those with profound loss across every domain, most notably for personal factors (Profound $M = 3.21$ vs. Severe $M = 3.74$) and emotional support ($M = 3.54$ vs. 3.89), but none of these differences reached significance. This runs counter to Alanazi (2021) and Maguate (2023), who found that students with more severe hearing impairment tend to report greater communication barriers; in the present sample, strong teacher and emotional support may have offset the anticipated difference between functionality groups, consistent with the role such school-level interventions can play.

Table 9. Comparison of Challenges by Type of Hearing Loss (Kruskal-Wallis H)

Domain	Conductive M	Functional M	Sensorineural M	H	p
Accessibility	3.05	3.50	3.46	2.085	.555
Teacher support	3.49	4.29	3.81	2.432	.488
School accommodation	3.56	3.20	3.70	1.371	.712
Emotional support	3.45	4.00	3.75	3.848	.278
Impact of condition	2.90	3.25	3.29	3.289	.349
Personal factors	3.47	3.08	3.58	1.177	.759
Overall	3.32	3.55	3.60	1.055	.788

Note. Conductive $n = 5$; Functional $n = 2$; Sensorineural $n = 6$; Central hearing loss ($n = 1$) was excluded from group testing owing to insufficient cell size. All decisions: do not reject H_0 (not significant), $\alpha = .05$.

Comparisons by type of hearing loss likewise showed no statistically significant differences on any domain (all $p > .05$). Students with functional hearing loss rated teacher support most favorably ($M = 4.29$) and school accommodation least favorably ($M = 3.20$) among the three groups compared, but sample sizes were small, and none of the observed differences reached significance. Taken together with the functionality comparisons, these results suggest that medical classification of hearing loss — whether by degree or by type — was less consequential for students' reported experience than the presence or absence of consistent, school-level support, a pattern consistent with Kusters et al. (2024), who similarly found inclusive practice and institutional support to weigh more heavily on students' experience than disability classification itself.



Qualitative Findings: Student Experiences

Thematic analysis of the focus group discussion yielded six themes describing how respondents experience inclusive education.

Theme 1: Communication as the Core of Inclusion and Exclusion

Communication emerged not merely as a classroom skill but as the single factor most determinative of students' sense of inclusion or exclusion. Participants described difficulty following fast, unfaced speech and background noise ("Nahihirapan po akong sundan ang usapan kapag mabilis magsalita ang guro at hindi nakaharap sa akin"), with group work — where speech is faster and less structured — cited as especially difficult ("Kapag marami pong nagsasalita sa group discussion, hindi ko na po maintindihan"). Where communication access was deliberately provided, however, participants described feeling genuinely included, particularly through sign language, clear facing speech, and visual aids. Several students had developed their own coping strategies — lip-reading, captions, asking classmates for notes — which, while evidence of resilience, also revealed an underlying imbalance: hearing-impaired students are often expected to adapt to an inaccessible environment rather than being accommodated by it.

Theme 2: Visual and Multimodal Instruction as the Gateway to Learning

Participants consistently identified visual and multimodal instruction — sign language, written notes, board work, captions, and visual aids — as the primary basis on which their understanding depended, particularly for abstract subjects such as Mathematics and Science. Where visual support was inconsistent, students reported having to piece together an incomplete picture of the lesson. Recommendations centered on the combined, equal use of sign language and written language in class, greater availability of visual tools, and written transcripts of lectures.

Theme 3: Teacher Competence, Awareness, and Inclusive Pedagogical Practice

Participants located inclusion less in policy than in teachers' day-to-day communication and instructional choices. Sign language training and hearing-impairment awareness were repeatedly named as necessary rather than optional, and students described tangible benefits when teachers used clear explanation and visual aids. At the same time, participants identified gaps — teachers who "make an attempt, but talk too quickly," or fail to face students while speaking — that undercut otherwise well-intentioned instruction, underscoring that inclusive pedagogy is a practice requiring sustained professional preparation rather than goodwill alone.

Theme 4: Social Belonging, Emotional Inclusion, and the Quiet Experience of Being Seen

Belonging emerged as fragile even in generally supportive settings: participants described being "left out at times" and feeling lonely despite kind classmates, indicating that kindness alone does not guarantee inclusion. Group activities were identified as a recurring site where inclusion is reinforced or quietly undermined through fast-paced, unmediated exchange. Participants nonetheless expressed a strong desire for continued connection — both with hearing peers and with other hearing-impaired students — framing social belonging as an ongoing, relational process rather than a fixed condition.

Theme 5: Structural, Financial, and Resource Barriers Shaping Inclusion

Participants repeatedly cited unequal access to interpreters, captioning, and assistive technologies, along with financial constraints limiting their families' ability to afford needed tools, as barriers operating independently of teachers' or peers' goodwill. Family support was described as a meaningful but partial buffer — helpful at home, but no substitute for institutional provision. Participants' recurring calls for more interpreters, more devices, and

stronger institutional commitment indicate that, in their view, inclusion cannot rest on individual effort or attitude alone but requires well-funded, systematic measures.

Theme 6: Agency, Resilience, and the Quiet Strength of Hearing-Impaired Students

Where support was lacking, participants described actively adapting — through lip-reading, captions, requesting written notes, and self-advocacy — and framed these adaptations as sources of growth in patience, independence, and self-acceptance. Several encouraged fellow hearing-impaired students to speak up for their needs and to stay connected with one another for mutual support. This resilience is genuine, but it does not substitute for structural support: participants' own accounts make clear that their determination and resourcefulness persist alongside, not in place of, the systemic barriers documented in the preceding themes.

Convergence of Quantitative and Qualitative Findings

Table 10. Convergence of Quantitative and Qualitative Findings

Domain	Quantitative Finding	Qualitative Finding	Convergence
Communication	Impact of hearing condition had the lowest composite mean ($M = 2.91$), especially on communication-related items.	Theme 1 identified communication as the central determinant of inclusion or exclusion.	Confirmed: communication is the core barrier across both data sources.
Teacher support	Highest composite mean of all domains ($M = 3.73$).	Themes 1 and 3 described teachers as supportive and patient, but noted uneven structured strategies.	Aligned, with qualitative data indicating where structured strategy still needs strengthening.
Accessibility	Moderately a challenge ($M = 3.27$).	Theme 2 emphasized dependence on visual aids, sign language, and captioning.	Complementary: quantitative moderation explained by real-time instructional gaps noted qualitatively.
School accommodation/inclusivity	Less of a challenge overall ($M = 3.53$); lowest sub-items on school-wide inclusive programs.	Themes 3 and 4 called for stronger school-wide programs beyond classroom accommodation.	Aligned: classroom-level support stronger than institution-wide inclusion programming.
Emotional support	Less of a challenge ($M = 3.71$).	Theme 4 found belonging present but fragile, especially during group work.	Generally aligned, with qualitative data showing the



Domain	Quantitative Finding	Qualitative Finding	Convergence
			conditionality of that support.
Personal/demographic factors	Moderately a challenge (M = 3.48).	Theme 5 cited family support and financial limitation as key influences.	Aligned: personal and family factors shape, without wholly determining, academic difficulty.



DISCUSSION

The results converge on a single central finding: communication, not attitude or willingness, is the primary barrier hearing-impaired students face in this inclusive setting. Students rated teacher support, emotional support, and school accommodation favorably — evidence that goodwill and relational support are genuinely present at Bataan National High School–Junior High School — yet the impact-of-hearing-condition domain, and specifically the item on communicating with teachers and classmates, drew the least favorable ratings in the entire instrument. The qualitative data explain why: even well-intentioned teachers who fail to face students while speaking, or who speak too quickly, functionally exclude hearing-impaired students from a lesson regardless of their intent, and group work — where speech is faster and less structured — magnifies this effect. This pattern is consistent with Alanazi (2021), Reyes (2021), and Dela Fuente (2021), who identified communication as the most persistent barrier in comparable settings, and with Kusters et al. (2024), who argue that inclusion cannot be achieved through goodwill alone in the absence of structured communication-accessibility mechanisms.

The absence of statistically significant differences by hearing functionality or type of hearing loss is itself informative. Rather than indicating that hearing status is irrelevant, it suggests that the challenges these students face are shaped more by the school's instructional and structural response to hearing impairment than by its clinical severity or type — a reading that aligns with Kusters et al.'s (2024) finding that institutional support outweighs disability classification in shaping students' inclusive-education experience. Practically, this argues against a one-size-fits-all response calibrated to functionality or type, and for accommodations — visual instruction, consistent captioning, interpreter access, and teacher positioning and pacing — that benefit hearing-impaired students broadly rather than being reserved for the more severely affected.

The gap between classroom-level accommodation (strong) and school-wide inclusive programming (comparatively weak) points to a second priority. Students experience individual teachers' support and their own classroom's conduciveness favorably, but rate broader inclusive programs promoting hearing/hearing-impaired interaction, and their overall sense of safety and comfort in the school, less favorably and with markedly more variability. This is consistent with Maguate (2023) and Dela Cruz (2022), who found peer-interaction barriers rooted in communication gaps rather than hostility, and it suggests that structured, school-wide peer-integration programming — rather than further concentration of resources at the classroom level alone — is likely to yield the largest additional gains.

Resource and financial constraints, evident in both the demographic profile (57.14% of respondents from low-income households) and the qualitative theme on structural barriers, further qualify these findings. Consistent with Mercado (2020) and Reyes (2021), economic constraints appear to limit access to assistive devices and technology-based interventions independent of any school-level effort, reinforcing that an instructional development program addressing hearing-impaired students' needs cannot rely on classroom practice alone but must also address material access.

This study is limited by its small, single-school sample ($n = 14$), which constrains the statistical power of the group comparisons and the generalizability of the findings beyond Bataan National High School–Junior High School; the non-significant results reported here should accordingly be read as suggestive rather than conclusive, and as a rationale for larger, multi-site replication. The reliance on self-report data, and the researcher's dual role as a Department of Education teacher within the broader school system, are further considerations relevant to interpreting participants' responses.

Conclusion and Recommendations

Hearing-impaired students at Bataan National High School–Junior High School experience moderate-to-high challenges in inclusive education, most acutely in communication, accessibility to learning materials, and



classroom participation. Teacher support and school accommodation are genuine strengths, but they do not, on their own, remove the barriers students encounter. Clear communication, visual teaching strategies, and patient, well-trained teachers meaningfully improve students' understanding and sense of inclusion, while personal background — particularly household income and the level of support available at home — shapes how readily students access the tools and materials inclusive education requires. Hearing status, whether measured by functionality or type of hearing loss, did not significantly differentiate the challenges students reported, indicating that the school's structural and instructional response to hearing impairment matters more than its clinical classification. On this basis, the null hypothesis of no significant difference in challenges across hearing-status groups is retained. Taken together, these findings support the conclusion that inclusive education for hearing-impaired students requires a deliberate shift from mere placement in mainstream classrooms toward genuine, structured access — a shift that strengthened communication support, improved teaching methods, and sustained emotional support can help achieve.

Recommendations

1. Expand financial and material support. Because most respondents come from low- to middle-income households, schools and local government units should pursue subsidies or partnerships that supply hearing aids, captioning tools, and other assistive resources, with usage tracked to confirm reach; targeted tutoring or mentorship should accompany this support for students in higher grade levels facing more demanding curricula.
2. Strengthen classroom communication access. Given the prevalence of severe and profound hearing loss in this population, classrooms should consistently use visual aids, captioned videos, written instructions, and sign language interpretation, supported by teacher training in recognizing and responding to different types of hearing loss.
3. Improve assistive-technology availability and maintenance. Schools should expand device availability, provide lesson materials in multiple formats (visual, written, digital), and establish regular maintenance and troubleshooting routines so that existing devices remain usable.
4. Standardize adaptive teaching strategies. Professional development in inclusive pedagogy, Filipino Sign Language proficiency, and differentiated instruction should be provided so that adaptive strategies — visual cues, interactive methods, individualized lesson modification — are applied consistently rather than depending on individual teachers' initiative.
5. Build structured peer-interaction and safety programs. Buddy systems, collaborative projects, and hearing-impaired-hearing student clubs should be developed to strengthen social inclusion and students' sense of safety, with participation and feedback monitored to guide improvement.
6. Address classroom distractions and emotional well-being. Schools should reduce excessive noise and visual disruption, and integrate counseling, check-ins, and mindfulness or stress-reduction activities into daily routines to support focus and emotional regulation.
7. Institutionalize communication self-advocacy. Consistent visual supports, repeated instructions, and individual comprehension check-ins should be paired with structured self-advocacy training so that students can request clarification and communicate their needs directly.
8. Engage families as partners. Schools should involve families in supporting learning at home — guiding homework assistance and use of learning devices — while financial-support programs help offset the inequities linked to household income.
9. Prioritize communication and accessibility in the instructional development program. The proposed program should center on expanding access to assistive devices, strengthening individualized instructional support, and enhancing classroom communication, so that systemic support complements the resilience students already bring to their own learning.



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