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Teaching Health and Physical Education to Deaf Students: Reviewing the Challenges and Solutions

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Abstract

This study examines the challenges and solutions in teaching health and physical education (HPEd) to deaf students. Despite the importance of HPEd for physical, cognitive, and social development, deaf learners face multiple barriers due to communication difficulties, inappropriate curriculum, and inadequate instructional resources. The main objective of the study was: to identify the major challenges to teach HPEd for the deaf students, and to explore possible solutions to address the challenges. A descriptive research design was adopted, where primary data were collected from 36 students of grades 11 and 12 through census sampling, and one HPEd teacher was selected using purposive sampling at Bahira Bal Ma. Vi., Siddharthanagar, Rupandehi. Data were analyzed using simple statistical tool; mean and percentage. The results showed that 94.44% of students considered the curriculum unsuitable for their level, 72.22% found teaching methods ineffective, and 72% reported insufficient teaching aids. Communication barriers were evident, with both teachers and students possessing only moderate sign language proficiency. Furthermore, the evaluation system, mainly based on written and practical examinations which is used for general students, did not adequately reflect deaf students' real achievements. In conclusion, the study highlights the urgent need for a deaf-friendly curriculum, activity-based pedagogy, greater use of visual and interactive teaching aids, professional training for teachers in sign language and inclusive practices, and assessment reforms emphasizing practical performance. Implementing these solutions can significantly enhance deaf students' access to and participation in HPEd, thereby promoting inclusive and equitable education in practice.

Introduction

Teaching is a challenging task, teaching the deaf is likely to be more challenging. Before discussing the challenges of teaching the deaf, it is important to understand what types of people are considered as the deaf. Deafness is one kind of disabilities. It is the hearing impairment. Normally deaf person can't listen the sound, so they have to use sign language to communicate with one another (World Health Organization, 2024). A person is considered to have deafness when they experience a diminished or complete loss of their ability to hear the sound. The severity of the hearing loss varies; from a mild impairment to the profound deafness. From a medical standpoint, deafness is diagnosed either by a hearing threshold greater than 80 decibels or by the individual's need to use sign language as their main form of communication (World Health Organization [WHO], n.d.). Hearing can be classified according to how well a person can hear sounds, measured in decibels (dB HL). People with normal hearing can detect sounds from 0 to 25 dB HL. Mild hearing loss ranges from 26 to 40 dB HL, moderate hearing loss from 41 to 55 dB HL, and moderately severe hearing loss from 56 to 70 dB HL. Severe hearing loss occurs between 71 and 90 dB HL. When hearing loss reaches 91 dB HL or more, it is considered profound, which is often referred to as deafness. These categories are widely used by audiologists and speech-language professionals (American Speech-Language-Hearing Association, n.d.). Person with

disability as someone with long-term physical, mental, intellectual, or sensory disability or functional impairments (Government of Nepal, 2017). Disabled person as a Nepalese citizen who is physically or mentally unable or handicapped to do normal daily lifework (Government of Nepal,1982). Nepal government has classified disabilities into ten different types as physical, vision-related, hearing-related, vocal and speech-related, deaf-blind, intellectual, mental and psychosocial, hemophilia, autism, and multiple disabilities (Government of Nepal,1982). Government of Nepal issued a disability ID card for them all. A deaf person is a person who cannot hear sound above 80 decibels or the person who has to use sign language for communication (WHO, n.d.). Therefore, it requires the use sign language in deaf student's class room to teach them. It is not easy to teach the deaf students because of communication barriers in the class rooms. Along with the communication challenges in teaching activities, the deaf students face other similar communication barriers while studying.

Research has shown that deaf students face several challenges in learning. According to Weber (2016), classroom issues such as noise, poor lighting, limited language skills, reliance on lip-reading, and lack of teacher awareness can make learning difficult. Studies also report that standard curricula and traditional teaching methods, which are designed for hearing students, often make it hard for deaf students to understand lessons, participate in group activities, and engage socially (Marschark & Spencer, 2010; Antia et al., 2011). In Health and Physical Education classes, these challenges can be even more pronounced, as deaf students may struggle to follow verbal instructions or perform activities without visual support (Fitzpatrick et al., 2016). The research indicates that using sign language, visual demonstrations, and individualized support can help overcome these difficulties. Teaching health and physical education to the deaf students invites several challenges. They often find it hard to follow spoken instructions, participate in group activities, and keep up with lessons designed for hearing students (Barboza et al., 2019). The problem is made worse when teachers are not fluent in sign language or when teaching resources are limited. To help deaf students learn better, it is important to use sign language, include visual aids and demonstrations, simplify lessons, and give individual support. These strategies can improve their physical, social, and cognitive development (Kassim, 2021).

Different previous studies state that, teaching and learning health and physical education (HPEd) for deaf children comes with unique challenges due to the students' hearing impairment. The deaf students often face difficulties in understanding instructions by following verbal explanations, and participating in group activities, which are supposed to be the key components of health and physical education. The standard curriculum, designed for hearing students, may not always be suitable, leading to gaps in comprehension, engagement, and skill development. Moreover, limited availability of teachers trained in sign language or adapted teaching methods can further hinder effective learning. To overcome these challenges, it is essential to adopt tailored instructional strategies such as using sign language as the primary medium of instruction, incorporating visual aids and demonstrations, simplifying content, and providing individualized support. Addressing these challenges not only facilitates better understanding and participation but also promotes physical, cognitive, and social development among deaf students. Understanding the challenges and implementing effective solutions is crucial to ensuring that the deaf students can fully benefit from health and physical education programs. In this context, there is very little research in Nepal on teaching health and physical education to deaf students. That provides a profound evidence for studies in this area. This study, therefore, focuses on the exploration of the main challenges and seeking practical solutions so as to carry out effective teaching and learning HPEd activities among the deaf students at Bahira Bal Ma. Vi., Siddharthasnagar, Rupandehi.

Methods

It is a descriptive study where primary data are used. An interview schedule is used as the main tool for data collection from the concerned. A censes method of sampling is used to select the students who are now studying in class 11 and 12 and the HPEd teacher is selected as purposive sampling within Bahira Bal Ma. Vi., Siddharthanagr, Rupandehi. Likewise, general statistical methods like mean and percentages are used to analyze and interpret the data in detail.

Results

The data obtained from the study has been thoroughly analyzed by employing simple statistical methods, including the calculation of percentages and mean values, and then the findings are systematically presented below with respective subheadings.

Major Challenges in Teaching HPEd to Deaf Students

Various factors explicitly or implicitly affect the teaching and learning processes of the deaf students. This study explores the key challenges faced by HPEd teachers in teaching the deaf students as well as the difficulties encountered by the deaf students while learning health and physical Education. These issues are discussed below.

Communication Related challenges

Sign language is needed for teachers to teach deaf children and for the students who read for themselves. Teaching and learning can be effective only when both teachers and students are fully proficient in sign language. Hence, an attempt was made to find out the application of sign language proficiency for both. The attempt is presented below with separate sub-headings.

Teacher Trained in Sign Language

To teach the deaf children, of course, the teacher must be proficient in sign language, the main means of communication for the deaf. If the teaching cannot be completed in sign language, his teaching will not be very meaningful. It is necessary for the teacher who teaches deaf students is needed to be proficient in their language. In this context, the students as in the sample of the selected school were asked about the sign language proficiency of the HPEd teacher who teaches them, the responses received are presented in the table as follows.

Table 1

Competency level of Teachers in Sign Language (n=36)

Variables	Number	Percent
Excellent	3	8.33
Very Good	5	13.89
Good	17	47.22
Normal	6	16.67
Poor	5	13.89
Total	36	100

Table 1 shows that 8.33% of the deaf student respondents rated their teachers as excellent in sign language, 13.89% as very good, 47.22% as good, 16.67% as normal, and 13.89% as poor. This indicates that most HPEd teachers possess a satisfactory level of sign language proficiency, though a small portion still face difficulties in communicating effectively with deaf students. Therefore, it is important to strengthen teachers' communication skills in sign language to enhance the effectiveness of teaching and learning activities for deaf learners.

Sign Language Fluency Level in Student.

Sign language is the main medium of language, communication and learning for deaf children. As sign language is the way through which they acquire knowledge and interact with teachers and peers, it is essential for them to be fully aware of this. In this context, when HPEd teachers were asked about the level of sign language fluency of their students, the responses were as presented in the table below.

Table 2

Sign Language Fluency Level in Student (n=36)

Variables	Number	Percent
Excellent	2	5.56
Very Good	3	8.33
Good	22	61.11
Normal	8	22.22
Poor	1	2.78
Total	36	100

The analysis of sign language fluency among students shows that a majority (61.11%) fall under the "Good" category, while 22.22% students are at a "Normal" level, indicating that most of the students have moderate fluency but may still need improvement. Only a small portion had achieved higher levels, with 5.56% rated "Excellent" and 8.33% "Very Good," whereas 2.78% were found to have poor fluency. It seems that, most students possess adequate sign language skills, but greater focus is needed to raise more learners to higher levels of proficiency.

The study highlighted that effective communication is a key challenge in teaching HPEd to deaf students due to differences in sign language proficiency among teachers and students. While most teachers (47.22%) were rated as having "Good" skills, only a few achieved "Excellent" (8.33%) or "Very Good" (13.89%), and some (13.89%) were rated "Poor." Among students, the majority (61.11%) demonstrated "Good" fluency, with smaller numbers at "Excellent" (5.56%) or "Very Good" (8.33%), and a portion at "Normal" (22.22%) or "Poor" (2.78%). These findings indicate that although basic communication skills exist, improving sign language proficiency for both teachers and students is essential to enhance learning outcomes in HPEd classes.

Content Complexity Related Challenges

As deaf students grow up, their learning and comprehension may not be adequate due to hearing problem. As their comprehension level decreases, the contents designed for normal children in school may seem a bit complicated for deaf students. In this context, teachers and students' perceptions regarding the complexity of contents are presented below.

One of the main aspects of teaching and learning is content. It is customary to add some complex subject matters from small class to the large ones with the determination of the scope, objectives and sequence of the content. Especially in the Nepalese context, all the subject matters studied by the normal students are the same as those studied by the deaf students. In this situation, the response from the deaf students is as follows when asked whether the content is suitable for the deaf or not.

The analysis of deaf students' perspectives on content suitability reveals that only 2 students (5.56%) considered the content appropriate, while a substantial majority of 34 students (94.44%) found it unsuitable. This number clearly indicates a gap between the curriculum and the learning needs of deaf students, suggesting that the content may be too complex and adapted for them without studying far and wide. These findings indicate a pressing need for curriculum redesign and individualized teaching approaches as to enhance the fruitful learning outcomes of deaf students.

Content Complexity in the Views of Teachers

The data obtained from the HPEd teacher indicate that the same subject matter is used for both general and deaf students. However, according to the teacher's response, the content is not appropriate for the level of deaf students, as it is beyond their ability to read, understand, and retain effectively.

It seems that, teachers' perspectives regarding content suitability for deaf students indicates a response of "inappropriate," suggesting that the teacher believes the subject matter is not at a level that deaf students can easily read, understand, and retain. This implies that the curriculum, may be too

complex or insufficiently adapted to the learning needs of deaf learners. It means, the teacher perceives the content as unsuitable for deaf students and the suggest for the need of curriculum modification and targeted instructional strategies to enhance their learning outcomes.

Content Delivery (Teaching Method) Related Challenges

Deaf children face some emerging challenges at the time of delivery due to traditional teaching methods which rely heavily on verbal instructions only. In HPEd classes, oral explanations and demonstrations may not be fully accessible to them. Limited use of sign language or visual aids can lead to misunderstandings, reduced engagement, and bring difficulty in performing physical tasks correctly. The pace of instruction and lack of attentive attention may further lessens their learning and skill development. Therefore, adapting teaching methods through sign language, visual demonstrations, and interactive strategies is essential to overcome these challenges and ensure effective learning for deaf students. The students' views in this regard are presented in the heading below.

Regarding to the electiveness of teaching methods used by hped teachers, the process of teaching and learning, different approaches, methods, or techniques are used. They are called teaching methods. As the communication process of deaf students is different, there is an urgent need to be some difference in the methods applying in the teaching learning activities. In this context, when asked to the students whether the approaches, methods, or techniques adopted by their teachers are correct and effective, the responses are as presented in the table below.

Out of 36 students, only 10 (27.78%) students reported that the teaching methods used in HPEd were effective, whereas 26 students (72.22%) felt that the methods did not meet their learning needs. This suggests that most deaf students struggle with the current instructional approaches, which may not fully support their understanding, participation, or skill development. It means it is essential for the teachers to implement more appropriate strategies such as using sign language, visual aids, and personalized instruction to improve learning outcomes in deaf learners.

Major Teaching Methods Used During Teaching HPEd

Health and physical education is essential for students' overall growth as it promotes fitness, health awareness, social skills, and lifelong wellness. Unlike many academic subjects, it combines theory with practical learning, its teaching methods are uniquely different. It's appropriate strategies not only build knowledge of health concepts but also strengthen motor skills, teamwork, discipline, and positive attitudes. We must assume that students have varied needs and abilities, so teachers should use different approaches such as lectures, demonstrations, discussions, and activity-based methods to encourage participation, improve understanding, and create meaningful learning experiences. In this context, the study seeks to examine the major teaching methods employed by subject teachers in delivering HPEd to deaf students, as outlined; Question Answer method, Demonstration method, Lecture method, Observation method and Discussion method.

Health and physical education teachers report that the main methods used with deaf children are question–answer, demonstration, lecture, observation, and discussion. The question–answer method helps check understanding, while demonstration and observation are most effective since deaf learners rely strongly on visual cues and imitation. Lectures can support theory but need visual aids and simplified communication. Discussion method also promote interaction among the participants if guided properly. Overall, teachers agree that visual and activity-based methods are the most suitable for teaching HPEd to deaf students.

Teaching Aids Related Challenges

Health and physical education for deaf students often faces challenges related to the availability, accessibility, and effective use of teaching aids. Limited resources, lack of technology, and insufficient teacher training in using visual and interactive tools can adversely affect the learning process. In this context, the study aims to identify the challenges associated with using teaching aids while delivering HPEd to deaf students.

Students Views about Sufficiency of Teaching Aids used in HPEd Teaching

Concerning with students views about sufficiency of teaching aids used in HPEd. teaching, teaching aids are essential and useful for supporting learning, especially for deaf students who depend

on visual and interactive tools. HPEd teachers use resources such as smart boards, charts, posters, game equipment, and multimedia to enhance understanding. The effectiveness of these aids depends on their availability and use in the classroom. To get its ground information, students were asked whether the teaching aids provided were sufficient, and then their responses are as presented in the table below. The results show that just 28% of students believed the teaching aids used in HPEd were adequate, whereas 72% felt they were insufficient. This indicates a strong demand from students for more accessible and effective teaching aids, especially considering the importance of visual and interactive tools for deaf learners.

Teaching Aids used in Teaching HPEd to Deaf Students

Teaching aids are vital in health and physical education, particularly for deaf students who rely on visual and interactive methods of learning. These tools help explain concepts, demonstrate skills, and maintain student engagement. Some important aids that include smart boards, IT tools, posters, pamphlets, game equipment, and teacher-made charts. Despite challenges such as limited resources and lack of training, teachers continue to use these aids to support effective instruction. In this context, teachers reported that they are using smart board, all in one (IT tools), posters, pamphlets, games materials like ball net, shot put etc, teacher made charts and etc. tools and resources to enhance HPEd teaching for deaf students.

Teachers utilize a range of teaching aids to enhance HPEd learning for deaf students. Smart boards are used to deliver interactive lessons with visual content, videos, and animations that clarify concepts. All-in-one IT tools offer multimedia resources and simulations to support both theoretical understanding and skill development. Visual aids such as posters and teacher-made charts help reinforce important ideas, rules, and procedures in a clear and memorable way. Pamphlets provide concise written information for reference, while game materials like balls, nets, and shot puts enable students to practise physical skills and engage actively in activities. Overall, these aids address the visual learning needs of deaf students and contribute to improved comprehension and practical skill acquisition in HPEd.

Evaluation Related Challenges

Evaluation Techniques used in HPEd

According to the HPEd subject teacher, the evaluation system for deaf students is the same as that applied to the hearing students, with 40% allocated to internal assessment—including attendance, project work, and terminal examinations—and 60% to the final written examination. This approach, however, presents many challenges. The emphasis on written examinations makes it difficult for deaf learners, who often face barriers related to language and communication. Although many deaf students are able to understand concepts through practice, demonstration, and physical activities, these competencies are not effectively reflected in written tests. As a result, their actual abilities and performance in HPEd are not fully measured. To ensure validity and accuracy, evaluation methods should incorporate practical tests, performance-based assessments, and visual or activity-oriented approaches that align more closely with the learning approaches and strengths of deaf students.

Problems of HPEd Evaluation Techniques

In the teaching and learning of HPEd, deaf students encounter various challenges, including communication barriers, complex content, inappropriate teaching methods, and insufficient teaching aids. These difficulties extend beyond the classroom and also influence the process of evaluation. The evaluation system remains the same as that used for hearing students, and it often creates additional obstacles for deaf learners. In this context, the problems related to evaluation techniques, as reported by the HPEd subject teacher, are; limited development of sign language vocabulary makes it difficult for students to fully understand examination content, the level of difficulty in many test questions does not correspond to the learners' actual abilities and learning progress. Long and complex questions often create confusion since it creates challenges with memory and comprehension. Students' limited skills in analysis, interpretation, and organization reduce the clarity and depth of their answers. Practical and performance-based assessments are rarely implemented and it makes evaluations mostly theoretical and gets less feedback which is often inadequate and fails to support meaningful improvement and written examinations receive excessive emphasis, with little attention to alternative and inclusive evaluation methods.

Solutions to Reduce Challenges in Teaching HPEd to Deaf Students

During the study and discussions with HPEd teachers and students suggested the some solutions to address the challenges related to HPEd education which are to be redesigned and adapt the curriculum suitable to the deaf friendly curriculum, adopt visual and activity-rich pedagogy, strengthen teaching aids and materials, erase the communication gap, realign evaluation system with learning, support academic language development, invest in teacher professional learning, optimize the learning environment and build coordinated supports and resources.

Discussion

Health and physical education is crucial for the overall development of deaf students, helping them build all essential non-verbal skills, teamwork, and health understanding. The current standard teaching model, however, designed for hearing students creates significant systemic barriers to this learning. The major problems are the inaccessible curriculum, ineffective teaching methods relying on verbal explanations, and major communication gaps due to low sign language proficiency in both sides. These barriers together represent a critical failure of educational fairness, demanding a fundamental change in instruction and assessment system to ensure deaf learners in learning effectively. The major challenges to teach deaf students and their solutions are discussed here.

The result shows that 94.44% of deaf students feel that the curriculum is not suitable for their level. This means most deaf learners find the lessons too tough to understand. Recent studies also report that school materials are mainly designed for hearing students, with complex language and spoken explanations. Because of these features, many deaf students struggle to follow lessons and stay engaged in the class (Ben Rakaa et al., 2025; Marschark & Knoors, 2023). To solve this problem, teachers should use clear and simple language, visual materials, and sign-supported teaching. Similarly, training teachers in inclusive and bilingual (sign and spoken) methods can help make learning more effective and fruitful for deaf students. The results show that 72.22% of students found the teaching methods ineffective, which means the current ways of teaching HPEd are not suitable for deaf learners. Other recent studies also point out that lecture-based and verbal teaching styles make it hard for deaf students to understand lessons, as they mainly depend on visual learning and sign language (Ben Rakaa et al., 2025; Marschark & Knoors, 2024). The research suggests that teaching should include more visual methods such as demonstrations, sign-supported explanations, and interactive activities to make lessons easier to follow and more engaging. It is also important that teachers receive training in sign language and visual teaching strategies to improve understanding and participation (Smith et al., 2023). Therefore, HPEd classes should be away from traditional lectures and conducted with more visual, practical, and student-centered methods supported by modern tools and teaching materials to make learning fair and effective for deaf students. The recent research shows that teaching aids for deaf students are often insufficient and underused. A 2025 study in Brazil found that most instructional materials were text-based, with very few sign-language videos or visual resources, and many teachers lacked proper training to use them effectively (MDPI, 2025). This supports the finding that 72% of students consider teaching aids inadequate. It must be ensured that clear, appropriate access, visually rich, and interactive resources, along with teacher training, is essential to make effective learning for deaf learners. The data reveal a clear gap in sign-language proficiency between teachers and students. Only 22.22% of teachers consider their skills “Excellent” or “Very Good,” while 13.89% rate themselves as “Poor,” suggesting that many educators may struggle to explain complex concepts effectively. Among students, most report “Good” sign fluency (61.11%), but only a few reach the “Excellent” or “Very Good” level, meaning their ability to fully understand or express nuanced ideas is limited. The inappropriate in communication skills can reduce clarity, slower the pace of lessons, and limits the depth of learning, and ultimately affects the students’ academic progress and engagement. The current assessment weighting of 40% internal and 60% written favors text-based exams over practical performance, disadvantaging deaf learners who excel through visual and motor demonstrations. Studies show that written tests often fail to capture authentic skills and instead reflect language proficiency rather than actual competence (Kaifi, 2024; Levy-Feldman, 2025). The research on deaf education also highlights that written-heavy assessments create

barriers to fair evaluation, underscoring the need for more performance-based and visually accessible assessments such as portfolios, demonstrations, and teacher observations (Dianastiti, 2024; Cawthon, 2009). Deaf students often struggle with language and literacy because they have less exposure to spoken and written language. When lessons or exams use complex words, long sentences, or abstract ideas, it becomes hard for them to understand the meaning. Many deaf learners use sign language which has a different structure from written language. They may find it challenging to interpret complex academic texts. This can lower their comprehension and participation in class. The research suggests that using simpler language, adding visual aids, and teaching key academic words directly can make learning more fruitful and effective for deaf students (Dianastiti, 2024; Marschark & Knoors, 2023).

Achieving educational equity for deaf learners in HPEd demands a fundamental shift away from the ineffective, auditory-centric practices which is currently dominating the field. The failure of verbal-based instruction, and critical sign language proficiency gaps require systematic, evidence-based remediation. This document outlines a focused strategy to dismantle these barriers by replacing the standard model with a visual, bilingual, and skill-centered approach. These solutions are precisely aligned with the identified priorities, targeting curriculum redesign, teacher capacity building, and assessment reform to ensure every deaf student so as to attain full, meaningful access to HPEd and its long-term benefits. In this context, major solutions (actionable and matched to priorities) derived from the discussion of deaf students and their teacher are: redesign and adapt the curriculum and make deaf friendly curriculum, adopt visual and activity-rich pedagogy, strengthen teaching aids and materials, erase the communication gap, realign evaluation system with learning, support academic language development, invest in teacher professional learning, optimize the learning environment and build coordinated supports and resources.

Conclusion

The present study found that deaf students face many problems in learning health and physical education. Most of these challenges come from poor communication between teachers and students, a difficult curriculum, and teaching methods that rely too much on talking instead of showing. Many teachers are not fully skilled in sign language, and the same materials used for hearing students are also used for deaf students, making lessons hard to understand. The lack of proper teaching aids and the focus on written exams instead of practical work also make learning more difficult. These issues show that the current teaching system does not meet the real learning needs of the deaf students and limits their participation and progress in HPEd.

To solve these problems, the study suggests clear and practical steps. The HPEd curriculum should be redesigned to match the needs and language levels of deaf learners. Teachers should use more visual and activity-based methods, supported by videos, demonstrations, and sign language. Schools also need to provide enough visual teaching aids and materials to make lessons easier to understand. Teachers should be trained well frequently in sign language and inclusive teaching methods. The evaluation system should focus more on practical performance and less on written exams. If these changes are carried out and applied honestly, the teaching and learning HPEd will become more inclusive, effective, and enjoyable for the deaf students who are lagging behind in terms of acquiring knowledge and skills.

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