



# Asian Journal of Distance Education

## Education of Deaf Learners through Open Schooling System in India

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**Abstract:** The main challenges for education of disabled learners are identifying and serving these learners in India and raising the quality of education for them. While inclusion of children with disabilities into mainstream education has been challenging due to various policy constraints and gaps in implementation, the paper discusses how National Institute of Open Schooling (NIOS), India has designed various educational programmes to achieve the three important principles of education policy viz., access, equity and quality. Apart from its in-built flexibilities offered by NIOS, wherein learners are provided with due flexibilities and opportunities to learn at their own pace and place to every group of learners through use of Media and ICT support both in academic and evaluation system, NIOS has also developed mechanism of providing learning material in Indian Sign Language at secondary level (10<sup>th</sup> class) and orienting parents and learners through Indian Sign language dictionary. The paper also raises the debate of importance of advocacy and collaboration with various deaf enabled organisation to promote the education of deaf and hard-of-hearing learners in the country.

**Keywords:** Disability, Open Schooling, NIOS, Deaf, ISL, ODL, Technology

### Introduction

The worldwide concern for achieving Education for all at elementary and secondary level of education has pushed for reforms in various countries including India since decades. However, in many countries including India, those with disabilities remain the most excluded and they have lesser access to healthcare and education, and in turn, they find it difficult for earning a living and lifting themselves out of poverty. Thus, Quality and inclusive education has been given due emphasis in Sustainable Development Goal (SDG) agenda. SDG 4 advocates for inclusive and equitable quality education and promotion of life-long learning opportunities for all and focuses on eliminating gender disparities in education and ensuring equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities. In addition, the proposal calls for building and upgrading education facilities that are child, disability and gender sensitive and also provide safe, non-violent, inclusive and effective learning environments for all. Target 4. (a) also emphasizes on education facilities and learning environments: *'Build and upgrade education facilities that are child, disability and gender sensitive and provide safe non-violent inclusive and effective learning environments for all.'* No doubt, Millennium Development Goals (MDG) focused on education for all, since the MDGs were silent on issue of disability, Persons with Disabilities (PwDs) were excluded from many developmental initiatives including education (LCD, 2017). However, commitments on disabilities reflected in 2030 agenda of achieving SDGs imply that the government policies and

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strategies will attempt to empower and address educational needs of Persons with Disabilities (PwDs).

In recent years, many programmes were devised to provide education to deaf Persons in India. For the first time in India, special schools were established for the deaf in Bombay in 1883. Presently, there are 386 government funded schools for the deaf persons across the country. Many NGOs have also set up deaf schools for providing education. However, quality and inclusive education for deaf is still a pressing issue in the country. The paper discusses how Open Schooling approaches adopted by NIOS help in addressing the educational needs of deaf persons throughout the country.

### Legislations

The push for giving right of every child to education has been asserted in the Universal Declaration of Human Rights (1948) and was strongly put forward by the 'Jomtien World Declaration of Education for All (1990)', 'Millennium Development Goals (2000)' and 'Sustainable Development Goals (2015)'. Further, the Standard Rules on the Equalization of Opportunities for Persons with Disabilities (1993) gave the platform to improve the educational status of persons with disabilities. This had major influence for the enactment of various legislative Acts in India including 'The Rehabilitation Council of India Act, 1992 (RCI Act)', 'the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act)', 'the National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities Act, 1999' and Right to Persons with Disabilities (RPwD) Act, 2016. RPwD Act, 2016, the replacement of PwD Act, 1995 has given recognition to Sign Language and education of deaf persons where it states "*The appropriate Government and the local authorities shall endeavour that all educational institutions funded or recognised by them provide inclusive education to the children with disabilities and towards that end shall ensure that the education to persons who are blind or deaf or both is imparted in the most appropriate languages and modes and means of communication*". While the RCI Act was mainly dealt with manpower development for the rehabilitation of persons with disabilities, the RPwD Act is a significant step forward to empower PwDs and promote their equality and participation by removing all kinds of discrimination in education, employment and other social life. The Right of children to Free and Compulsory Education (RTE) Act, 2009 passed by the Indian Parliament also mandated that every disabled child has the right to receive free and compulsory elementary education in a neighbourhood school up to the age of 18 years.

### Status of Deaf Education in India

As per the Census of India, 2011, about 2.68 crore persons are 'disabled' which constitutes 2.21% of the total population. Out of the total disabled population, 18.9 % are with disability in hearing and another 7.5% are with disability in speech (Table-1). Taken together, persons with disabilities in Hearing and Speech constitute 26% of total disabled population, who need sign language as their communication need. The census 2011 showed that, in India, 20.42 lakhs children aged 0-6 years are disabled, out of which 23% of the children (0-6 years) are having disability in hearing. (Census, 2011).

**Table 1. Proportion of Disabled Population by Type of Disability India: 2011**

Type of Disability	Persons	Males	Females
Total	100.0	100.0	100.0
In Seeing	18.8	17.6	20.2
In Hearing	18.9	17.9	20.2
In Speech	7.5	7.5	7.4
In Movement	20.3	22.5	17.5
Mental Retardation	5.6	5.8	5.4
Mental Illness	2.7	2.8	2.6

Any Other	18.4	18.2	18.6
Multiple Disability	7.9	7.8	8.1

Source: Census of India, 2011

The literacy rate among persons with disabilities in 'Hearing'(Deaf) and 'Speech' (Hard-of-hearing) population is 62.2 percent and 61.2 percent respectively. Compared to males, percentage of illiterates are more among females with disability in hearing and disability in speech. While the literacy rate among males with disability in hearing is 72.1 percent, the literacy rate is about 20 per cent less among females with disability in hearing. Similarly, the literacy rate among females with disability in speech is 55.6 percent, it was 66.7 percent among males with disability in speech. (Table-2).

**Table 2.** Literates and Effective Literacy Rate Among Disabled Population, India: 2011

Type of Disability	Literates Among Disabled Population (Millions)			Effective Literacy Rate (%) (7 years and above)		
	Persons	Males	Females	Persons	Males	Females
<b>Total</b>	14.6	9.3	5.3	59.0	67.3	48.4
In Hearing	2.9	1.8	1.1	62.8	72.1	52.5
In Speech	1.2	0.7	0.5	61.8	66.7	55.6

Source: Census of India, 2011

**Table 3.** Percentage Share of Disabled Literates by Educational Level and Type of Disability, India: 2011(%)

Type of Disability	Total no. of Literates (in Lakh)	Below primary	Primary but below middle	Middle but below matric/secondary	Matric/Secondary but below graduate	Graduate and above
<b>Total</b>	14.62	19.4	24.3	16.7	23.6	8.5
In Hearing	2.89	18.9	23.7	16.2	24.5	9.3
In Speech	1.16	20.8	23.6	15.1	23.6	9.3

Source: Census of India, 2011

Even those who are literate, there are high percentage of persons with disability in hearing and speech, who are educated below secondary level of education. There are 66.2 per cent of persons with disability in hearing, whose qualification is below secondary level of education while 67.1 per cent of persons with disability in speech are below secondary level of education (Table-3). Thus, open schooling can be the potential option to educate persons with disability in speech and hearing having the flexibility embedded in it.

### NIOS and Education of Deaf Learners

While the unavailability of adequate facilities in formal schools and lack of adequate number of special schools in the country has impacted the schooling of children with disabilities to a great extent, open schooling has been considered as one of the potential alternatives for these children to continue their education (NCERT, 2013). Further, Indian Sign Language, which is core to communication of deaf learners, less encouragement of Sign language in education and mainstream society has affected deaf community. Even there is lack of sign language teachers in deaf schools in India. Even those who use sign language in deaf schools as well as regular schools are not adequately trained to teach deaf learners in sign language. (Randhwa et. al., 2014, Zeshan et. al, 2016, 2017). While there is requirement of sustainable educational innovation to deal with the

challenges of deaf education, NIOS having a large network of education system throughout the country can address these challenges.

Further, the Information and Communication Technology (ICT) through open schooling system has the greater advantage to address the education of deaf children and adults not only by providing them an opportunity to use sign language-based content but also by addressing the issues like stigma and labeling issues faced in the formal education system (Mahapatra, 2016). The National Institute of Open Schooling (NIOS), formerly known as National Open School (NOS) was established in November 1989 with a mandate to provide inclusive and quality educational opportunities to learners with a particular focus on education of learners with disabilities, women and other marginalised groups. NIOS provides academic courses at secondary and senior secondary level, vocational and skill development programmes, open basic education and teacher education programmes

The academic support to the learners is offered through the provision of the personal Contact Programme (PCP) at nearly 7000 study centers in the country. NIOS has about 100 Special study centers catering to the educational needs of the learners with disabilities and those who are belong to the marginalized sections of society. Most of these study centers are well-resourced with special educational facilities and infrastructures to enable the learners with disabilities to access better schooling as per their special needs. NIOS as one of the resource organisation in open schooling has its inherent flexibilities, which facilitate the education of these groups of learners without boundaries of distance, time, and social and gender stereotype. Deaf and hard-of-hearing persons need equitable access to quality education in terms of deaf teachers, accessible curriculum and enabling learning environments. However, in many deaf schools, particularly located in the rural, parts of India, lack deaf teachers, who are familiar with standardized Indian sign language to educate deaf learners (Morgan, 2008). Realizing these grave concerns for education with Hearing Impairment, NIOS has taken following initiatives for improving their education.

**1. Indian Sign Language Dictionary:** While there is lack of quality and standardized learning resources to educate deaf learners, parents and teachers, NIOS has developed an Indian Sign Language (ISL) Dictionary to facilitate communication and education of the deaf and hard of-hearing persons. This dictionary include 36 Videos of about 2000 words and basic sentences, which is available on the NIOS portal. The dictionary comprises of words used in everyday life such as names of family members and relatives, places, things around us, weather and educational terms etc. Each word is represented by pictures and illustrations. The dictionary has been developed involving sign language experts working in various institutions dealing with hearing impairments. Feedback was taken from students and teachers at schools for the deaf and experts in sign language to improve the dictionary. It is anticipated that introduction of Indian Sign Language (ISL) dictionary will directly benefit about 50 lakhs hearing impaired and 20 lakhs speech impaired persons in our country. It will also be a beneficial learning resource to many special schools in the country for training their teachers and assist in the teaching learning process in schools for the deaf.

**2. Sign language based content at secondary level:** NIOS has also developed curriculum based videos in Indian Sign Language medium in 7 subjects to provide educational access to learners at secondary level. After the pilot in Home Science subject at secondary level, NIOS has already developed about 263 videos in seven different subjects such as English, Hindi, Social Science, Home Science, Indian Cultural Heritage, Painting and Data Entry Operations. These videos have already around 2.7 million viewers, who have been widely benefitted by accessing videos in sign language version on NIOS Channel on Youtube (<https://www.youtube.com/watch?v=YWlhw3nEYH8&list=PLUuOqp8QaNB1SkqZURX0RGcaomsPfkDsl>). NIOS is among the first national board in India to introduce learning through sign language at secondary level.

These videos have widely impacted education of deaf learners across the nation. Sakshi Kumar, one deaf learner of NIOS was recently awarded Commonwealth of Learning (COL) award for Excellence in a Distance or Online Learning Experience at Ninth Pan Commonwealth Forum at Edinburgh, Scotland on 11.09.2019. She has also won two gold medals in Cycling in Special Olympics in 2018.

The flexibility offered by NIOS not only helped the learner to devote more time to practice cycling, she was also able to devote more time on self-studies using sign language video on Youtube and TV channel.

**3. Gyanamrit Channel:** Apart from using YouTube forum to access the sign language video by learners, NIOS has started SwayamPrabha DTH Channel 30: Gyanamrit to offer NIOS educational Courses in Sign language and bilingual version at Secondary level, Yoga course and courses on Indian Knowledge Tradition. This channel broadcasts video lectures with high-quality, visually and graphically enriched content. Presently, this channel is available on DTH cable operator on 24X7 basis using the GSAT-15 satellite. This is one of the first educational channels in India to broadcast educational content in sign language at secondary level. Apart from broadcasting content at secondary level, NIOS is also planning to broadcast video content at senior secondary and vocational courses.

**4. MOOCs at Secondary level with Sign language videos:** NIOS has developed MOOCs at secondary and senior secondary level as one of the partners of National MOOC initiative for “Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)”. The courses through SWAYAM are being delivered at secondary and senior secondary level on the principle of 4 quadrants of learning (Tutorial Audio/Video, e-Content (text, pdf), e-Resource (Web support, Chat, Blog, Discussion forum) and Self- Assessment). Apart from regular video lectures, NIOS has also added sign language videos at secondary level in 6 subjects in MOOCs to provide learning experience to deaf learners in Virtual Learning Environment(VLE) mode. After piloting in 6 subjects at secondary level, NIOS proposes to start MOOCs platform where e-Content (text, pdf), e-Resource (Web support, Chat, Blog, Discussion forum) will be supported by Sign language videos in each lessons and Self-assessment questions will also be available in sign language mode.

### Issues and Challenges

Use of technology widens the scope for learning but technology accessibility is still an issue in rural areas as far as internet connectivity and cost of technological devices concerned. Hence, there is need to explore potential options to bridge digital divide and widen access to Indian sign language resources. Firstly, advocacy of NIOS educational programmes related to Indian Sign Language (ISL) dictionary and Sign Language videos at Secondary level need to be publicized in large scale. In this regard, advocacy may be done with SAIED centers of NIOS dealing with Hearing Impaired (HI) or deaf enabled organizations etc. Secondly, these existing SAIED centers of NIOS and deaf enabled organisations may be encouraged to use DTH satellite television, which is available at lesser cost, so that the learners attending these institutions can avail the benefit of sign language videos. Thirdly, deaf schools those who are committed to offer quality education and having adequate infrastructure may be encouraged to be SAIED centers of NIOS so that more and more potential deaf learners can benefit from NIOS programmes. Last but not the least, NIOS needs to collaborate with many national level organisations like ISLRTC and other deaf enabled organisations to pool more sign language resources to target divergent group of learners at regional and sub-regional level.

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