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TRANSFORMING DEAF EDUCATION IN INDIA THROUGH THE USE OF TECHNOLOGY:
POSSIBILITIES AND CHALLENGES
PRESENTER: ILA PARASNIS
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Transforming Deaf Education in India Through the Use of Technology:
Possibilities and Challenges
Presenter: Ila Parasniss.

>> Good morning. I hope that you're enjoying the first day. It's already
the first morning of the symposium. I would like to introduce Ila Parasniss
who will be leading the presentation today. Transforming deaf education in
India through the use of technology: possibilities and challenges. And I
also would like to introduce the interpreters. Their names are Tina Nelson
in the back. Voicing for me. And the other interpreter is Jim Orr who is
sitting up in front. Thank you for interpreting and helping us out. I will

allow the presentation to go for 30 minutes and then we will stop and have ten minutes for questions and answers. Okay. Great. Here we go.

>> Ila Parasnis: Hello, everyone. I would like to thank Jim Orr and Tina Nelson for interpreting for me. I collaborated on this paper with the director of the national institute for the hearing handicap in Mumbai, India, could not join me today but sends his greetings. I'm going to refer to his institute as AYJNYHH just to shorten it. That's how it goes in Mumbai. And I will, of course, refer to National Technical Institute for the Deaf as NTID. Let me tell you a little bit about AYJNYHH before I begin. This particular institute was established in 1983. It has five regional rehabilitation centers across India and it employs about 143 technical staff. It has an active educational program to grant Ph.D. and M.A. degrees and diplomas in speech, audiology and education. And has about 373 students enrolled in its program. It also provides clinical services, engages in research and dissemination of information related to deafness and deaf education. You all know about NTID and so I will not go into any detail about this institute. I'm a professor here in this department of research and teacher education and has been here more than 25 years. Here is the abstract of the paper. I'll let you read that. Here is an overview of what I will cover in this presentation. Considering the limited time I have to discuss each topic, I'm going to touch on each very briefly but please feel free to ask me questions afterwards on any of these topics or write to either of us. I have included the contact information in the aid and you should all have a PowerPoint presentation hand-out with you, if not raise your hand and you will get one. All right. I want to tell you a quick overview of the demographical facts about India. The multicultural, multilingual nature of the Indian society and the challenges it faces given its population needs to be recognized in offering any solution for Indian deaf education. As you can see India has over 1 billion people living on a land that's about one-third the size of USA. U.S. has about 304 million people and India has over 1 billion. According to the 2008 estimate the median age of Indian is about 25 years compared to the median age of 36.7 years for the U.S.

80.5% of people in India are Hindu. Another 2% follow a variety of other religions like Buddhism. Et cetera. It's good to remember all though it is predominantly Hindu it's not a Hindu nation. It's secular according to its constitution. According to the 2007 estimate, about 25% of Indian population lives below the poverty line and unemployment rate is about 7%. To give you a comparison, in the U.S., about 12% of the population lives below the poverty line and unemployment rate is 4.6%. Compared to the U.S. literacy of 99%, India has a literacy rate only reaching about 60%. About 70% of men are literate while about 48% of women are literate. This gender difference is due to the higher emphasis put on educating male children. India is a very multilingual society and there are hundreds of languages and thousands of dialects that are used daily. Following India's independence from England in 1947, the commission proposed a three-language formula for education. Which means that every schoolchild is taught a state language and there are 22 state languages, the national language Hindi. And English the world language. Books, newspapers and radio and TV use many languages routinely to convey information. Typical multilingual behavior such as switching between languages, borrowing words and phrases from different languages while using one primary language are quite common in spoken and written communication. Education is available in state languages and in the language Hindi although many offer English medium schools since they see it critical for the economy. In my research on deaf people in India back in 1996 I conducted a few studies. I found more than half of deaf adults we studied knew more than one spoken language. They also knew Indian sign language which I will refer to as ISL. Today there are many deaf children who learn two or more spoken languages in

school more by their own choice to meet the growing job market. Many schools are also becoming more accepting of some sign language for communication but not for education. It's still a pretty strictly oral approach when it comes to education of deaf people in India. ISL as a language is used all over the country in India and has many dialects and deaf people use it in social deaf clubs, in talking to other people. Although there is some influence from British Sign Language in the fingerspelling system, it's done on two hands, and a few other signs, it was developed in India. Over 75% of the signs from all regions are related, Mumbai dialect is the most influential ISL used in deaf clubs and historically it was used in some schools in the late 1800s. When I was at a deaf club in India most of the club business was conducted in sign language. Deaf people I talked to at that time did not consider it as a full-fledged language. They thought ASL was a language and theirs was just a signed system. These attitudes are now changing. A deaf man who has been here for many years and now working with Indian deaf people in India. They have been instrumental in researching this language and in creating and interpreting program at AYJNYHH. They also have founded a foundation which focuses on literacy programs for deaf children which I will discuss later. Now, the census of India in 2001 puts the hearing loss in India to 9 to 16 million. The estimate of deaf individuals between the ages of 15 to 59 years is about 1.74 million. Only 2%, approximately, 35,000, are estimated to complete their tenth grade education and only about .1% of these school children will attend college. This slide tells you the causes of deafness in India. If you notice it says that the incidence is high among Muslim. Research is currently be conducted to find why it is so about the genetic causes of deafness. There are significant challenges faced by deaf people in getting education or deafness related services and the next two or three slides I'm going to just list the challenges that we have. Low literacy, low number of schools and professionals serving deaf people, lack of support services and an overwhelmingly oral approach to education by teachers and professionals of deaf education are some of the major factors that limit full access to information in deaf people from very young age. In the field of audiology, it was found that over 25% of the trained speech and hearing professionals in India migrate to the west and Middle East country for better educational and vocational prospects. There's a great need for teachers of the deaf. We are about -- there are about 10,000 deaf education teachers training deaf education but they need far more number of teachers to do this. There's a great need for qualified sign language interpreters. AYJNYHH has established a certificate course. Hearing people who complete the course become sign language interpret while deaf people become ISL teachers. This course only provide as basic level in fluency in ISL. There are about 244 persons trained in ISL since 2002 but the Indian government has set the limit to be about 7500 interpreters that are needed. Right now, they are trying to set up a program to train approximately 20,000 persons but it is just in the making right now. Most of the special schools for deaf children in India provide up to fourth grade level education. Few selected schools about 175 give education to secondary level and about 30 offer high secondary education. There are only four colleges for the deaf and one is actually a training school. I have information about them with me if anyone wants to know but they are mostly in south India and they don't provide any support services but they do admit deaf people in their program. Identification of deafness in providing parents with appropriate support is critical for ensuring access to education. Although deafness is prevalent in Indian society knowledge about deaf culture is not easily available to the general public. Those involved in deaf education many times know about the social networking that deaf people have among themselves but these groups are seldom contacted and advocacy groups for deaf people are still pretty rare. I

already talked about the special education teachers. On the length of the special education training program sincere very short. Again, that's one of the challenges. It is only five months in duration and such train something too general to meet the specific needs of deaf students. They are trying, though, there is a scheme of education for all where teachers are trained to work in inclusive schools and they get like a 20 day service course or 60 days refresher course. Obviously, this needs to be changed to really have access to education. The next three slides are also going to show what the government of India is doing in terms of initiatives in this regard. One is that the disability act was passed in 1995 so that there is really a governmental support to have access to education and employment. The education for all assessment in 2000 has created an impetuous for inclusive education in mainstream schools and as I told you before, that's where the special education training is now being implemented. The important thing is language exemption. That is available for secondary undergraduate and post graduate education. Remember I said that people need to know three languages in order to get their high school certificate. For deaf people, this requirement has been reduced to show competency only in one language. Their chosen language usually people go for the own state language but as I mentioned before, again, deaf people voluntarily learn more than one language in order to have their job chances better. Government of India has set aside 3% of the jobs for the handicap in state and central government and public sector industries. It's not specific to deaf people but it includes all disabilities and deafness is included in that. Deaf people do receive some tax exemptions, economic aid, and free hearing aids and hearing evaluation is provided at national centers. I was informed about 2,000 people each year are distributed -- sorry -- 20,000 people each year are distributed hearing aids which have solar batteries so they can be helped that way. National news and English is interpreted in dialect of Indian sign language since 1987. India celebrates international week for the deaf in September. I'm going to rush through this a little bit so that I can get to the technology challenges. The caption -- let's look at the next three slides to see what the importance of technology is to transform deaf education. I'm going to talk about the cell phones and communication first because it's just fascinating. The Indian cell phone market is adding more than 3 million subscribers per month. The 2006 estimate for India was 166.1 million cell phone users compared to 233 million for the U.S.

So it is a huge market. These numbers are staggering when you consider the 2006 estimate for the Indian land line phones was about 49.75 million. And the comparable figure is 172 million for the U.S. Connecting India via land lines has not been successful but it seems the expanding internet connectivity by a high speed wireless is possible and it's connecting people across India rapidly. TTY services were not available for deaf people in India until just never were available. Never was popular. But now deaf people are using mobile phones for text messaging and it has transformed the access to communication. As for internet access, as of 2007, there are 60 million internet users. The comparable figure in America is 280 million. There are 202.306 million internet hosts in India compared to 282 million in the U.S., India's use of the internet is soaring rapidly. According to one author who wrote "Planet India" in 2007. There was a program by the Indian institute of technology which led a project which has allowed wireless kiosks that have a compute were a touch screen technology and it helps you to make phone calls. I used one when I was in India last July and it was cheaper, really cost me pennies, to call from India to U.S. rather than vice versa. In 2006 study they found that 51% of Indian internet users come from India's lower middle class. This again is a truly communication revolution. As I discuss shortly, this was far reaching applications for deaf education.

There are as for captioning services, there are 562 television broadcast stations in India compared to about 2218 for the U.S. open access to captioning is not available yet but many programs are captioned or dubbed in Hindi on TV. Realtime captioning is not available in India but holds a great promise for transforming the educational process and I will catch up to it briefly. Interpreting services through radio rely is a definite possibility. AYJNYHH has done a trial run and has found that it works well with the infrastructure in India. Expansion will be done after they get the funding. Here are the recent initiatives using technology that AYJNYHH has taken. One is a disability line and if I have time I will get -- I might show you the site itself. But the site for AYJNYHH is included in the PowerPoint hand-out. Please go there and click on the disability line. What they do is that they provide -- it is by phone. But they do provide 24-hour access to information regarding four major disabilities in English, Hindi. They talk about the nature of disabilities, schemes and concessions, and suitable free and private consultant contact information. About 250 calls are made to this line per month. Now, online auditory screening was launched in 2007. This was initiative again taken by AYJNYHH and its aim is to reach all and make them aware just to the idea there may be a hearing loss. It is not really practical to take an online hearing test, as we know. But the intention is to know about hearing sensitivity and make parents and other professionals aware that there might be a hearing loss. This particular site was developed at AYJ along with person from Basavarj who is from India institute of speech. There is also a media -- dissemination service that AYJ is doing. They have like three programs per year to sensitize the media about disability issues. They also produce a mega serial on Indian radio and reach about 23.5 million audience. I think they are going to try to now go to the TV with this particular series but this hasn't happened yet. There are two -- couple more initiatives can tell you about. One is the initiative taken by the foundation. This has happened very recently. The foundation is a partner in a project funded by the UK India education and research initiative. I mentioned to you earlier the names -- these are the two founding members of this particular foundation. This project's goal is to study ways of implementing distance learning in the teaching of English literacy to Indian deaf students. The plan is to produce online teaching materials in English literacy and to track the progress of groups of deaf learners in India. They wrote to me and said the response from the public has been phenomenal and the program is growing exponentially. You can find more information about this project at this website. The second one is a innovative course we just completed this spring in NTID. They collaborated and we taught an online course on web design to deaf young adults from the U.S. and India using multimedia and developed a course system. We use video time and asynchronous online discussions, realtime web-based radio broadcasts. One-to-one radio chat and multimedia radio listens in sign language with captions. It was developed on DVD and streaming video over the web. Students in each country attended class at the same time and interacted with each other on line having opportunities to increase cultural awareness. Additionally students and students in India developed skills in planning, designing and executing a website. I'm going to talk more about this project later on Wednesday at 11:00. Please come to that and you will hear a lot more details and actual demonstration of how these classrooms looked and how the teachers interacted. Now, these are the recent initiatives that I talked about but there are far more innovative solutions that we can imagine and can implement. For example, internet opens access to education, full access to education for deaf people. It uses the modality and this type of interactive activity it provides you makes learning much more fun. We can create learning communities for deaf people like we tried to do for the course and offer it

as for many people across many countries. That's one of the beauty and the strength of internet access that we can use this particular medium to really transform deaf education in India. One of the problems that deaf education is face something not having enough trained teachers. However, if these kinds of distance learning, blended learning programs are created we can have people gathering in India and be able to learn with a master teacher who is situated and anywhere in the world if they are willing to make the adaptation and have those internet connections working, the broadband access, we can make this a reality. Internet access to support services is also an extremely good area to explore. Realtime captioning can be adapted to bring the information, translate the information, in appropriate Indian languages so you can have your English translation, but you can also have appropriate languages appearing with the realtime captioning and that is a service that I think is just going to happen in the next few years because it's so obvious that it will help not only deaf people but many Indians who speak many different languages and at time really have no access to spoken communication because they don't understand that particular spoken language. Having a realtime captioning in their language would be a real facilitation for their communication. Support services for sign language, again, can be the video relay, can be also a great asset for transforming deaf education. Indian sign language interpreters who are trained by AYJ right now are in great demand but physically they are limited to what services they can provide. However, a video relay service at a national toll free number can really help deaf education across India. The social networking that professionals in deaf education and deafness and deaf individuals, they can really, really go for social networking on the internet. There are already google kind of chat groups and deaf people are already using those. Again a really concerted effort to get deaf students to establish learning communities, learn about each other. Learn about the deaf culture, history of deaf education, all of this will help them develop their identity as well as their connection with the other communities in India and empower them. Parents of deaf children right now do not have a way to communicate with each other. They may go through the hot line to find somebody locally. There are no large groups that parents can go to get support. Again, internet is a wonderful way to establish those kind of connections. I believe that internet is already being used a lot by deaf people just as mobile phones are being used a lot by deaf people but there has not been a systematic plan about how to use these two ways of communication for deaf education. So we believe that doing really a institute collaboration and having other professionals in deafness and deaf education come together as a panel will be very important to make this transformation of deaf education a success. In conclusion, the purpose of this paper was to give you a perspective on how the recent technological advances such as mobile home services, internet services, captioning services and interpreting services through video relay have the potential to transform deaf education in India. This service -- these service also have to be appropriately adapted and implemented to meet the needs of deaf people living in India and multilingual and multicultural society. We gave you a quick summary of the challenges Indian deaf education faces and some possible innovative solutions that can have a significant impact on deaf education and deaf community in India. Our hope is within the next few years we'll see a revolution in providing communication access and support services to deaf people. Such revolution will provide Indian deaf people with full access to quality education and will reduce the digital divide between deaf people in India and the developed countries. In the acknowledgments I have listed areas where you can find out more about Indian education. I have contact information included for myself. Please feel free to e-mail us. Now I'm ready for questions. Thank you.

[APPLAUSE]

>> Does anyone have any questions? Would you speak into the microphone here, please, when you have your questions, thank you.

>> They want to know how many people among the deaf population of India have received post secondary education?

>> Ila Parasnis: What I have been told is that about .1% of the deaf school children go to college. So let me go back to the -- about 35,000 people -- 35,000 students are estimated to complete tenth grade education. And then only .1% of those 1.74 million are supposed to go attend college. The reason I am saying it in such a qualified way is that all I know is the -- the enrollment figures. I don't know how many complete college education but that's the number who goes for applying for college. It's not there but it's .1% of the school children, deaf school children.

>> Is there an entrance examination for the people? How do they apply for the college?

>> Ila Parasnis: Yes, they take the regular college entrance exam. There is no adaptation for it. They take it, written college entrance exam like anybody else and they do not have support services when they attend college.

>> Can they choose the majors when they Mr. college.

>> Ila Parasnis: I don't know, but I can find out.

>> How many of those students actually get a bachelor degree or master's degree or anything higher?

>> Ila Parasnis: That's the one I do not know. I can ask the professor for that information. At this time he only had information about how many people apply because these colleges, these five colleges that I mentioned to you, are pretty recent development in India. They are very new. The one that is the boys town that's a training center, a training center, is -- has been in business for a few years, like two or three years, really, because before that deaf people were just left to go to mainstream schools, hearing schools, here at NTID we get deaf Indian students who succeed going through the hearing college system. But there are no kind of special services given to deaf students.

>> Do the deaf students join the mainstream students in college or have special class?

>> Ila Parasnis: Now with the education for all initiative, they are starting to have special self-contained rooms for deaf people at the secondary school level and that's where they are starting to train the teachers of the deaf to go into the classroom and have a special self-contained class. However, Indian sign language has not enjoyed a status of recognition in the Indian deaf education system. So the special class still requires a lot of speech and audiology training and using just mouth, lipreading, to teach deaf people. Those things have to change. That's why the organization is trying to raise the awareness about the use of Indian sign language and in deaf education.

>> Did the government provide financial support to the student, to the deaf student, in college?

>> Ila Parasnis: In college?

>> Yes.

>> Ila Parasnis: I don't know. I can find out. Generally Indian college education at the state level is subsidized so that everybody who go public schools do get subsidized but do I not know about Indian deaf students up to age 14 it's free. But I do not know about the college education.

>> I have a question. You said that deaf students in India, they know their language but you said here online English but --

>> Say again, please.

>> Let me go back real quickly. You said the deaf students in India know their own language, not necessarily English. They have their own language

but here is there -- going on line, are they able to read English? What language would they be using to communicate on line?

>> Ila Parasnis: That's really a good question. What we did was that we had an Indian sign language interpreter for our course, we had an Indian sign language interpreter in the Indian classroom and that interpreter listened to English and then signed in ISL to deaf students and then deaf students signed to them and then they wrote back to us online in English. Some deaf students in that class didn't know English, could follow English but were not good at expressing themselves. They relied on Indian sign language. Over here, we presented in English spoken English and the teachers signed and they actually loved that because that was to them a real -- they could follow a lot of signs because there is an interest of people learning ASL in India. We also provided captioning in the end we started using captioning. They loved that, too. We are going to do this hopefully do this project again and when we repeat it we're going to include captioning right from the start because that might also help. But, yes, English is -- writing in English is a barrier but deaf people seem to be using some kind of written English text when they text message each other on mobile phones. Last July when visited boys town I discovered that they had lots of these like what we do, PTYL or all these acronyms that we use in doing mobile phones. They are developing their own and somebody should go study that, see what they do and what their language and slang is. You had a question?

>> I know one deaf girl from the south but I'm surprised when I read that it says there are four colleges and what are the names of those four other colleges? Could you tell me?

>> Ila Parasnis: Yeah, I have them. Which slide was that? Okay. Here are the names.

>> While she is looking I want to tell you that you can do the evaluations on line. We passed out some here. They are very important to us. Please we do need your feedback. Please do that. I want to mention that while we were waiting.

>> Ila Parasnis: This is a very exciting development and I will tell you the names of the college. One is called St. Louis College. Second is JCE College of Polytechnic. College for the Deaf. And a university, Kalasing University. Actually the people from the University came to NTID to look at how we have set up the program and how we deliver course instruction. Theirs is a university for hearing student but they have now about 120 students they are accepting in their program to provide education for deaf people. And the last one was the boys town which is a technical center. Now that was also very interesting collaboration. Boys town is known all over the world. It's the same -- the boys town network that is around the world. And they were giving training to the disadvantaged Indian hearing children for many, many years. Now, AYJNYHH and boys town kind of collaborated for the last two years and started a program where they are accepting 100 deaf people in their program on their campus and because of the boys town reputation for instilling the work ethic and training the people well. These deaf students are in high demand in the companies and what boys town director -- I went and visited the campus. What the director told me was that he has made an informal -- informal unofficial kind of policy where when they come to get the hearing students, they say you need to hire at least one per three hearing students that you hire in your company. And one deaf person. So that way the deaf person has connection, has Buddy system, because the hearing children in that -- on that campus were starting to sign quite fluently and working with the deaf people quite well. So this way apparently the company hires them and then remember the company also has the pressure from the Indian government to hire people with disability and they find this

to be a very good way of getting deaf people into the business and that was very interesting for me to watch that.

>> So the hearing college is offering services for the deaf, is that right? Because I looked and I thought that that's what it said. There were four colleges for the deaf. But I thought there was only one that was in the south of India.

>> Ila Parasnis: Which one do you know?

>> We're going to have to hold that question on time. We are going to take a couple last questions. The Indian people, do they use English but can they read American English or --

>> Ila Parasnis: Yes. American English and -- English in print, they can read. They are taught English. They don't make much distinction between American English and British English in print. People may not know certain American idioms but there is such a huge entertainment industry, Hollywood, and all the American TV channels, are there in India.

>> One last question. I just wanted to ask you, I just wanted to ask a question, around gender issues, how many percentage of women or men -- male or female deaf students attend the courses?

>> Ila Parasnis: That's an excellent question. I do not know the answer. I know that female children in general are less in number than male children in the educational system. Because females going to into school is not really as much encouraged as males going to school but I can find out what the proportion is for deaf people.

>> That would be lovely, thank you. One last question. Thank you. It's very important for interpreters in Indian sign language themselves, do they have to have qualification in English then to translate over to Indian sign language? Do they have two types of qualifications?

>> Ila Parasnis: No. No, the one that I know, the program that I know in Indian sign language. They use the local language to teach the Indian sign language.

>> Okay, lovely.

>> I want to ask one little thing. What is the spelling, is it ISHARA, is that right?

>> Ila Parasnis: Yes. Thank you.

>> Don't forget to do the evaluations, please. It's very important. You can give them to me as you leave, if you like.

>> Ila Parasnis: Thank you very much.

[APPLAUSE]