Improving Reading of Deaf and Hard of Hearing Children Through Technology
Morocco

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Panel Discussion: Sign Language Solutions
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• While over 95 percent of primary school aged children in Morocco attend school, approximately 85 percent of deaf children are out of school and many, especially girls, are kept at home.

• For the few who are in school, educational opportunities beyond the sixth grade are almost non-existent.

• Most teachers who work with these children have no training in special education, and sign language interpreters are rarely available to assist them in classrooms.
• Moroccan Sign Language (MSL) is the native language of deaf Moroccans. It is a different language than any of the spoken languages of Morocco.

• MSL is a visual and gestural language and has no text representation. It can only be depicted via graphics, video, and animation. It is mostly undocumented.

• While deaf children may not understand a sentence in print, they may understand it perfectly if it is presented in sign language.
In 2015, IDRT received a two-year cooperative agreement from USAID/Morocco as part of the All Children Reading – A Grand Challenge for Development competition.

In April 2017, this cooperative agreement was extended by an additional year (i.e., until October 2018).
Goal: improve the Arabic reading skills of deaf students in grades one and two.

Principal Activities:

• Develop assistive technology and train educational stakeholders to create Moroccan Sign Language (MSL)-supported educational materials.

• Develop a sign language-friendly Early Grade Reading and Sign Language Assessment (EGRASLA).

• Train stakeholders in reading instructional techniques appropriate for young deaf/hard of hearing children.

• Evaluate the impact of the assistive technology on teacher practice and student literacy.
The software, “MSL Clip and Create,” is complete.

- There are five sections to the software:
  - Dictionary of nearly 3,000 MSL sign graphics & videos, corresponding Arabic words, concept pictures, and definitions in (Arabic & MSL)
  - Publishing tool
  - Templates for customizing printable games and puzzles
  - Storybooks translated into MSL
  - Instructional strategies to use with the software
Accomplishments -Software-

- An online mechanism is available to gather regional sign variations from stakeholders.
- Regional sign variations, teacher vocabulary requests, EGRASLA words, and national curriculum vocabulary words were incorporated into the software lexicon database.
- Stories from the national curriculum and elsewhere were translated into MSL.
• The software and hardware have been distributed to teachers along with training nationwide.

• Teachers are already generating an avalanche of instructional materials.
We have received reports that the training has changed the perspective and educational strategies of the teachers in three significant ways:

1. Teachers realize that they have to provide intense language stimulation early to their students.

2. They recognize that Moroccan Sign Language is the native language of deaf children in Morocco and should be encouraged.

3. They should respect and promote deaf children’s culture and identity.
Under the guidance of School to School and World Vision, we developed, piloted, and gathered baseline data on an Early Grade Reading and Sign Language Assessment (EGRASLA) for deaf children in grades 1-2 that is sign language-accessible.

- Technology involved: MSL video clips for some test items, videotaping to capture some student signed responses, and software to collect data.
Future Directions

● For the remainder of the grant, the project will focus on:
  - More in-depth training in reading and MSL literacy
  - Conducting baseline and endline testing with the EGRASLA instruments
  - Seeking financial sources for software replication/distribution and expanding the sign lexicon and stories
  - Measuring our impact
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