

Improving speech by visualizing it

South Africa – ADJ Electronics: Bellen Speech Visualizer

SUMMARY OF PROJECT

The goal of the Bellen Speech Visualizer project is to enable deaf students to improve their speaking abilities by providing visual feedback and cues. Students are able to visualize their own speech patterns, which effectively enables them to see what they are pronouncing and to adjust their voice output to match a given speech pattern example.

“The Speech Visualizer increases inclusivity and self-esteem for the deaf and hard-of-hearing by improving vocalization of speech.”

—Mr. Jaco Rademayer, ADJ Electronics

FACTS & FIGURES

- There are approximately 600,000 deaf persons in South Africa.
- Currently, 276 students have access to 22 Speech Visualizers.
- 11 schools with deaf students were reached during a pilot study.

PROBLEMS TARGETED

Speech training of deaf students is usually of limited duration due to the lack of contact time between individual students and speech therapists. The Bellen Speech Visualizer project was initiated in response to a request from the National Institute for the Deaf, and involved some hearing specialists as well as deaf persons working at the Institute. As an assistive device, the Speech Visualizer allows students to practice between visits with the speech therapist, and it also allows students with no access to therapists to receive some form of speech training.

SOLUTION & METHODOLOGY

The project addresses the need of persons with hearing loss to be able to communicate verbally with hearing persons. This is especially helpful to children who are still learning to communicate, as the software can assist with phonetic learning – on a visual basis – thus helping to improve literacy. This software provides the student with a target of a word/sound and shows him/her what the correct word/sound would look like. It then allows the student to progressively train him/herself to reach the target pronunciation via a visual feedback loop and an auditory feedback loop. The Speech Visualizer

was launched during a speech 'indaba' (workshop) and is marketed through strategic partnerships with companies such as Intel Education and institutions such as Light for the World.

OUTLOOK & TRANSFERABILITY

The Bellen Speech Visualizer can be utilized by many more students throughout the world. It is currently distributed only in South Africa, and is available only in English (combined with SASL) in both Android and MS Windows platforms. With only slight alterations, it can easily be scaled to be distributed throughout southern Africa and many other English-speaking countries worldwide. Given the ever-decreasing cost of computing technology, it is easy to envisage how the software could be rolled-out on a much wider scale.

Photo: Yes

Life story: Yes

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