Located in the outskirts of Pretoria and founded in 1954, Transoranje School for the Deaf is a school to 200 deaf and hard of hearing children from Pre-Primary to High School. A government subsidised school, it is also a home and safe haven where the children are cared for, loved and recognised. The school’s over arching philosophy is to empower their students by developing them into well-adjusted, responsible, independent, productive and self-sustaining individuals who are well prepared for the working world.

Due to the lack of language exposure during their critical developmental stages, the students’ level of competency at Transoranje is on average 2-3 years behind their peers. Many of them start school with little or no ability to communicate effectively. As a result, their situations pose a range of unique learning challenges. The school’s primary objective is to use a variety of visual means to teach their deaf students South African Sign Language (SASL) as well as reading and writing in English and Afrikaans. With the limited access to learning resources that the school previously had, this presented them with a difficult task.

The iDeaf Project on the iPad originated out of a necessity to better equip the deaf students of South Africa with the critical reading and language skills needed to accelerate their learning to more acceptable levels. With their learning centred around visual methods, the developers set out to combine a variety of visual and language elements into a series of locally relevant and interactive story books in both English and Afrikaans that would teach deaf students to read using South African Sign Language. The books were not only engaging but also enabled a level of in-depth understanding that had never been achieved at the school previously and transformed how the school teaches students to read and communicate effectively.

“We started the iDeaf project because we really identified that there was a big problem with deaf children’s reading skills.”

Karen Hart, App Developer and Digital Publisher, Picsterbooks

“When it came to this project, we had to deal with many aspects, nothing else ticked the boxes like an iPad.”

Karen Hart, App Developer and Digital Publisher, Picsterbooks
Transoranje School for the Deaf Recap

- Established in 1954
- Pre-Primary to High School
- Children are taught and live at the school
- 200 deaf and hard of hearing students
- 29 iPads shared from Pre-Primary to High School

The iDeaf App Overview

- The storybook apps were designed locally to meet the needs of deaf students who use South African Sign Language.
- There are 6 storybooks which include folk tales such as 3 Little Pigs, Goldilocks and The Gingerbread Man, as well as uniquely created stories which are based on the local curriculum such as The Clever Plan and The Big Carrot.
- All the storybooks are based on the objectives of the South African curriculum and contain beautifully illustrated stories designed in a standardised format.
- The storybooks can be read in English or Afrikaans and contain various visual elements: simplified text and syntax, picture animations, highlighted words, fingerspelling and SASL (South African Sign Language) interpretations and video.
- The highlighted words in the app are words that deaf children commonly struggle with.

When selecting these words they are explained in 4 formats: text, an animation or an image, SASL and finger spelling (deaf ABC). By combining the learning elements into 1 place the student is able to move through the book and develop a range of skills in an easy to understand format.

- The books also contain an audio element for only partially deaf children so that they can also hear the book read aloud, while reading the text and learning the sign.
- The storybooks were created using the Demi-books Composer app only available on iPad.

“We are working with children who are naturally language users with their hands and this was just an extension of their own language.”

Karen Hart, App Developer and Digital Publisher

“We would simplify stories so that it’s easier to understand. We’d have highlighted words and words that we knew the children would struggle with. We created an animation if it was an action or we would use an image to explain that specific word. We could form in-depth understanding instead of just skimming over it.”

Karen Hart, App Developer and Digital Publisher, Picsterbooks
iPad: Why iPad

With the project on a tight financial budget, there was little room for error and with a stable and proven track record in a special needs school environment, iPad was undoubtedly the device of choice. Together, the developers and the school found iPad to be such an intuitive device and there was no need to teach the students another ‘language’ in order for them to use the product. With the many challenges already faced by these students, eliminating this barrier would allow for the important part of their learning process to take place immediately. Additionally, the DemiBooks Composer app, which is only available on iPad, was also a crucial ingredient to the cost effective development process. The app allowed quick preview in real time for on the spot testing and assessment of the functionality and efficacy of the app which produced a much shorter production time. It also provided all the functionality needed in the story books such as video, text animation, highlighting, audio and multiple languages.

Improvised Reading Skills and In-Depth Understanding

In a short period of time, the iDeaf project is already showing remarkable impacts on the reading skills of students. By combining such an extensive set of learning elements into one app that is easy to navigate and understand, Grade 3 students are now able to read a whole story on their own, whereas previously they required a lot of guidance and assistance.

In the past, with the overload of visuals, the children would become fatigued, unresponsive and lose concentration. With the iPad in their hands, teachers have seen an increased level of engagement and active participation from students in their learning. This results in improved in-depth understanding. Additionally, iPad allows each child to work on their own and at their own pace with less dependance on their teacher. This is key for individualised learning.

“Deaf children learn everything visually and we needed to find an easy and concise way to condense everything that they needed into one place and that is one of the reasons why we chose the iPad”.

Karen Hart, App Developer and Digital Publisher, Picsterbooks

“It’s an intuitive tool. We did not need to teach the children another language to use this tool. They could use their fingers. They could explore and find their way on the iPad.”

Karen Hart, App Developer and Digital Publisher, Picsterbooks

“My grade 3’s can read a whole story now by themselves and don’t need my help. That is amazing!”

Jenine Esterhuysen, Primary School Teacher, Transoranje School for the Deaf
Rich Learning Opportunities

At the outset, the decision to integrate iPads, stemmed solely from the iDeaf Project concept. However, since their implementation, the school has discovered endless ways in which to use iPad, that are miles beyond their initial expectations. In an environment with limited resources, access to visually rich and world-leading educational apps makes iPad the ideal tool for teachers to easily and conveniently provide engaging content. Teachers have begun incorporating them into their lessons to bring their content alive. As an example, the High School use camera and video apps to record and edit stories in South African Sign Language, which are shared with the class. Additionally, the students are able to take pictures and collect images that make up their own personal sign language dictionaries.

“Initially we thought about just improving reading skills. And now we find that the children are using the iPads in ways that we never thought of.”

Karen Hart, App Developer and Digital Publisher, Picsterbooks

Visualising the Future

The combination of iPad and the DemiBooks Composer app provided the ideal visual tool for the iDeaf project. Using iPad for improving reading skills has fundamentally altered the learning outlook for deaf students at Transoranj School for the Deaf. Students are more engaged, are better at taking instruction and require less guidance. With improved reading and communication skills, these students are becoming better equipped for a world where they are faced with many challenges. In addition to this, iPad has given Transoranje School for the Deaf the opportunity of diversifying their curriculum to bring content alive for their students, in ways that up until now, they could never have imagined.

“Using the iPads, these children have a much brighter future. Ultimately we want to equip them better for a hearing world.”

Amanda Fourie, Deputy Principal Primary School, Transoranje School for the Deaf

“They have bettered themselves. I really think the iPads have changed the kids.”

Jenine Esterhuysen, Primary School Teacher, Transoranje School for the Deaf