Background
The aim of the present study is to examine whether a computer-based phonological intervention program can improve phonological skills in hearing impaired and deaf children with cochlear implants and/or hearing aids.

Design
The study has two pretests and one posttest (B1, B2 and PI) with 4 weeks in between. Intervention takes place between B2 and PI. Behavioral measures are obtained at all time points, Event Related Potentials at B2 and PI.

Participants
68 children took part in the study. All children were between 5 – 7 years old at the time of testing. They were matched for non-verbal intelligence and for sex.
1) Hearing children (n = 16)
2) Children with CI (n =17)
3) Children with HA (n = 15)

Behavioral Measures
Receptive and expressive phonological skills as well as letter knowledge at B1, B2 and PI.
Receptive: Phonological representations, Non word Discrimination and Phoneme Identification.
Expressive: Picture Naming and Non word Repetition (NWR).
Letter Knowledge: passive and active.

Results
Intervention revealed positive effects on accuracy of phoneme-grapheme correspondence for all children and a significant positive change on phonological processing skills for children with weak initial phonological skills.