Objective:
Individuals with profound intellectual and physical disabilities (PIPD) often cannot speak for themselves and do things for themselves. Their level of cognitive abilities is unclear. Eye gaze technology has the potential to gain access to cognitive processes and eventually enable communication among these individuals.

Method:
Six individuals with PIPD were given multiple sessions of eye gaze training (9-36 sessions) between February 17 to October 18. They used a screen eye-tracker (Tobii pc eye-mini) to control the objects/icons on the screen. An eye-gaze training program with different levels of activities was used to teach cause and effect, give appropriate response, explore the whole screen, target specific objects and turn-taking (2-7 times). Only 3 of them were able to choose between objects (2-5 times).

Results:
Five out of six individuals understood cause and effect (>7 times). Five of them were able to give appropriate response, explore the whole screen, target specific objects and turn-taking (2-7 times). Only 3 of them were able to choose between objects (2-5 times).

Analysis:
Eye-tracking data was video-recorded by Tobii gaze viewer program. The software shows heat maps and gaze plots of the areas the user has viewed on the screen. The heat map and gaze plot are superimposed over the image that the client was viewing at the time. The heat map (orange/yellow/green areas) shows what areas of the screen the user was looking at and the gaze plot shows the order of the user’s gaze.