

News & Comments

Echolocation is a Skill Humans can Learn in 10 Weeks

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You wouldn't believe it, but people navigated a darkened labyrinth only by clicking their tongues. Ten weeks of training enabled Durham University [study](#) participants to interpret the sounds their clicks produced in different environments, and use them to orient themselves. Twenty-six participants were trained, nearly half of them blind. Participants acquired a whole new sensory dimension regardless of their age or vision.

Many blind humans use echoes of their sounds to detect obstacles and their outlines as they echolocate, a skill associated with bats and whales. Many people make noise by tapping their canes or snapping their fingers, while others make clicking sounds with their mouths. It is, however, rare to teach this skill to blind people, despite how useful it can be. This study suggests that all it takes is a simple training schedule for expert echolocators.

Blind and sighted participants of both ages, both old and young, improved significantly at click-based echolocation throughout two- to three-hour training sessions. A series of virtual mazes - T-intersections, U-bends, and zigzags - was used to train participants to navigate and identify objects using their mouth during training.

During the final two sessions, participants navigated a virtual maze they had never seen before to test their new navigation skills. Despite being blinded in this unfamiliar environment, there were fewer collisions than at the beginning.

In addition to providing helpful guidance for echolocation instructors and new users, the study results enlighten a new dimension of how humans use echolocation to locate objects and target them more precisely when turning their heads away from them.

The team believes that training in click-based echolocation for those, who may still have good functional vision, but who are expected to lose vision later in life due to any progressive ocular condition, would be a better and more sensible thing to do.

KEYWORDS

Echolocation, Blindness, Human learning, Sensory perception, Vision, Eyes, Audiology, Analysis of variance

