



Welcome to iCept, an iPad app for students 7 to 17 years of age that tests & trains eye tracking & low-level sensory processing skills.

A home & school-based therapy solution.



Visual problems are common

A study involving some 1100 NZ students (years 2 to 9) found that 24% to 50% failed an advanced vision screening test. A preliminary study also found that 70% of students requiring remedial programs had visual problems that could affect learning.¹

Another study that involved 1103 year 2 Malaysian school children found that children with average and above average academic achievement showed different visual performance from those with low academic achievement.² Similarly, visual skills were shown to distinguish between students with and without mild academic problems in year 7 Israeli students.³ More recently, a study of 508 Australian students, ages 6 to 13 years, found that reduced visual skills were related to poor reading outcomes.⁴



Regarding dyslexia, research involving some 3000 German student's ages 7 to 17 years, has shown that 99.9% had a visual or auditory deficit and that 80 to 92% had a problem with *both* depending on age.⁵

Although some authorities claim a lack of evidence to support a visual link with academic learning this seems very unlikely. **On the contrary, the evidence shows that if academic outcomes are important to educators then visual and auditory skills should be considered a priority.**¹⁻¹³

What is the nature of the problem?



In most cases students with learning issues are found to have normal eyesight and hearing and so will *pass* a school vision and hearing test. This is because the problem is not related to the sensory organs themselves but with how well the brain is able to use the information that is received - or in the case of eye movements, the ability of the brain to accurately position the eyes whilst looking at text.

Such problems frequently go undiagnosed as they are not especially obvious compared to delays in speech or motor skills and yet it has been estimated that at least 80% of learning occurs through vision. These skills are not well developed when starting school and in fact they do not reach full maturity until the end of high school! It is therefore not surprising that some students, even at senior levels, have poor visual and auditory development.

What can be done to help?

To help address this gap in the educational model *Vision For Learning* have developed a free iPad app called "iCept" to test key visual and auditory skills. If a problem is found a training programme is offered that consists of daily exercises to help bring these skills up to age normal levels since studies show that these skills can be successfully trained resulting in better academic outcomes.¹⁴⁻²⁵

Before starting training however it needs to be established that a student has good eyesight and hearing in addition to *stable near vision*. The iCept testing will advise if a referral to an optometrist is indicated or at minimum they must be able to pass a simple 3 point check test of near vision. This should be done on *every* child needing learning support.

If training is indicated this may require parents and schools to work together as some children can find it difficult to maintain the exercises at home. To help with this, training is offered



on the iPad so that it can be done in the classroom during weekdays (10 minutes/day) and at home on the weekends and holidays. This requires educators to recognize the importance of these skills as being foundational for educational performance and the impact of failing to address these skills on literacy and numeracy at both the primary and secondary school level.

For more information go to <http://icept.co.nz>

References – please click to view

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This article can be found at <http://icept.co.nz> by going to *Resources > Information For Schools > About iCept*.