

Vision and hearing problems: Spotting the signs, screening and supporting children and young people in school

Mild and moderate vision and hearing problems are common among children and young people and can act as a significant barrier to educational and social development. A *SecEd*, *Headteacher Update*, and *Children and Young People Now* webinar considered the prevalence of these issues, their potential impact, and how we can support students in school...

How many children have mild to moderate vision or hearing problems in your school?

For many colleagues, this is a hard question to answer accurately and yet the impact of these often easily remedied problems on students' social development and academic progress can be severe.

The issue was under discussion during a recent webinar organised by *SecEd*, *Headteacher Update*, and *Children and Young People Now*.

Produced in partnership with Thomson Screening and its SchoolScreener for Schools service, the webinar featured clinical experts as well as two schools which have made identifying these issues a priority.

The scale of the problem

Vision problems are common among children, with some studies suggesting that as many as one in five have some form of visual deficit (Li et al, 2016) with the potential to affect their educational development (including colour vision impairment).

Furthermore, there have been "significant increases" (Holden et al, 2016) in short-sightedness (myopia) due in no small part to increasing screen-time – a problem exacerbated by the Covid-19 pandemic (Zhang et al, 2022).

These problems can lead to difficulties seeing in the distance (e.g. viewing the board) or when reading. In most cases, these problems, once discovered, can be corrected by spectacles or other intervention.

Hearing loss in childhood, meanwhile, is equally common and can also affect almost one in five children and young people – with the majority developing problems during childhood (Moore et al, 2020).

And even minimal, mild, and moderate hearing loss can have an impact on cognitive and auditory skills and cause detrimental effects on speech, language, developmental and educational outcomes (Lieu et al, 2020; Moore et al, 2020).

Screening

A core problem, however, is that national screening happens once if



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When it comes to hearing, recent research has suggested that hearing loss is much more prevalent in 6 to 11-year-olds than most current estimates (Moore et al, 2020). Furthermore, the webinar heard that the pandemic has led to more hearing problems going undiagnosed.

Spotting the signs & screening

"It's the moderate and mild difficulties that can go unnoticed." So explained Liz Zoccolan, a SENDCO and assistant headteacher at Harrogate Grammar School in North Yorkshire. However, Ms Zoccolan said that a "huge number" of signs can help us to identify students who might have problems.

"Students may withdraw or disengage from learning, sit quietly and hope to be invisible in the classroom. Other students might be more likely to act out, show behavioural issues, or become the class clown. We might see attendance drop, too."

Ms Zoccolan said that at secondary level students can become more socially isolated as their peers become less patient and understanding, especially with hearing problems.

Harrogate Grammar has implemented whole-year screening for reading which has helped them to pick up possible vision impairments (often misdiagnosed as reading problems). The school is now exploring further screening options for both vision and hearing.

Also on the webinar panel was Michelle Siequien, headteacher of

at all. The webinar heard how local authorities are meant to ensure that all children are screened for vision issues on school entry. However, provision is patchy and often doesn't cover all potential deficits.

Professor David Thomson, an expert in clinical optometry and

visual perception, said that the screening guidance centres heavily on lazy eye. He explained: "It is patchy to say the least. But even where it is done well, children only get a check on school entry and... that really is not adequate because a huge number of things can change after school entry.

"The guidance is geared very much around detecting lazy eye, which is only one of the conditions that can affect the eyes. In terms of learning, some of the other conditions are just as important if not more important than lazy eye but there are no mechanisms in place picking up those children."

When it comes to hearing, we have in place the new-born hearing screening but then "it all stops", explained Dr Sebastian Hendricks, a consultant in paediatric audiological medicine at Great Ormond Street Hospital.

And there lies the rub – most mild and moderate vision and hearing difficulties can and will develop later on. Prof Thomson continued: "The years between five onwards through to the teenage years are exactly when children go long-sighted or short-sighted. A single screening on school entry won't give you any information about what is likely to happen thereafter."

MEET THE EXPERTS



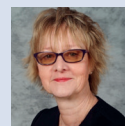
Professor David Thomson: David is the founder of Thomson Screening. He has spent most of his professional life at City, University of London. He lectured in clinical optometry and visual perception before becoming head of department. In the 1990s, he recognised the potential of emerging computer and display technology for vision assessment and screening. He

started to develop software and the first programme launched in 1992. Today, his software is used in thousands of clinics and schools worldwide. He started developing software for vision screening in schools more than 10 years ago.



Dr Sebastian Hendricks: Sebastian is a consultant in paediatric audiological medicine at Great Ormond Street Hospital.

He is a Fellow of the Royal College of Physicians and the Royal College of Paediatrics & Child Health. He has worked with Thomson Screening for more than a decade developing SchoolScreener Hearing.



Michelle Siequien: Michelle has been headteacher of Discovery Primary Academy in Peterborough since 2015. An APEX Academy, Discovery is a

three-form entry primary school which opened in September 2018 and has 550 pupils aged 4 to 11 on roll.



Liz Zoccolan: Liz is SENDCO and assistant headteacher at Harrogate Grammar School, a large comprehensive secondary school of more than 2,100 pupils in North Yorkshire. It is part of the Red Kite Learning Trust.

About Thomson Screening

This webinar was produced in partnership with our friends at Thomson Screening. City, University of London, founded Thomson Screening in 2011 to build on the research of Professor David Thomson and develop software applications enabling schools and non-clinical NHS staff to check children for undetected eyesight and vision problems that may be affecting their educational and social development and their healthcare.

Thomson Screening's SchoolScreener, which is used by non-clinical NHS staff, has clocked up more than 1.2 million screenings in more than 5,000 schools. Its sister technology – SchoolScreener for Schools – can be used by school support staff at key stages 2, 3 and 4.

For more information, visit <https://thomsonscreening.com/>

Discovery Primary Academy in Peterborough. The three-form entry school has been able to screen children for eyesight problems and has also recently begun screening for hearing issues.

Ms Siequien explained: "When we (screened for vision) in 2021 we screened 372 children across the academy and 63 of those children went on for optician appointments and 30 required intervention with either a change of prescription or needing glasses.

"I can think of one child who had gone through the whole of primary school and in year 6 we suddenly found out that they were struggling with seeing the board because they had vision issues.

"If we can identify these barriers at a young age then we can ensure that the children get the provision and the checks they need and encourage (the family) to do that."

Many of the signs at primary level are the same as at secondary, but one particular difficulty with younger children is "they are not aware themselves that there is a difficulty".

Ms Siequien continued: "It's very much down to teachers or parents picking up on that, which in itself is quite challenging in a very busy classroom."

Ms Siequien said that these issues lead to children "struggling with reading, not being able to pick up phonics, their speech can be quite poor, there's a lack vocabulary, and they can disengage with the class – that becomes more apparent as the children get older".

Prof Thomson added: "The impact will depend on what's wrong with their eyes and the severity. When it comes to reading, any child who is having reading difficulties, the first thing that should be ruled out is whether they have a vision problem."

During the webinar, Prof Thomson listed some of the most common mild to moderate vision conditions:

- Lazy eye: "That will affect their depth perception. Certain tasks will become more difficult – their eye-hand coordination may be reduced."
- Long-sighted: "May struggle ➤"

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to focus on things close up. When reading, the words may drift in and out of focus. Children might get eye-strain and they might also get headaches.”

- Short-sighted: “They will struggle to see in the distance. If they’re sat at the back of the classroom they will struggle to see what is on the board. A typical sign is that they will screw their eyes up.”

For children with hearing issues, Dr Hendricks explained that they will often “misunderstand what’s been said” and there will be social isolation, especially for teenagers.

Ms Siequien explained that screening is a “simple straightforward process and takes 2 to 3 minutes per child”.

She added: “We screened the whole academy and sent letters home. The biggest difficulty is following up the letters to make sure the families do take the children to get checked.”

Back in school, teachers are then informed of the screening results and so can support children’s learning, including ensuring they are wearing glasses if they need them.

“Teachers are aware that children need glasses and do checks as part of the morning routine. They change seating for children and they have that extra

awareness when supporting that child on a day-to-day basis.”

Ms Zoccolan, meanwhile, advises school staff of reasonable adjustments and access arrangements which allow students to engage fully in the curriculum and achieve the best possible outcomes in examinations.

♥♥ *Remain professionally curious. All behaviour is unmet need of some description. Those hidden disabilities are easily missed when they are mild to moderate* ♥♥

A particular issue at secondary level, she said, was that due to peer pressure students sometimes do not want to wear glasses. Some have even broken their glasses because “they do not want to be seen as different”. As such, she often suggests families consider contact lenses if possible.

She added: “We share all the data with the teachers and update

the Individual Education Plan so that teachers are aware that particular students may just need some adjustments in the classroom and support to overcome those barriers.”

Final thoughts

The four panelists brought the webinar to a close with their final thoughts:

Professor David Thomson: “My advice to teachers is to keep your eyes open whenever you come across a child who is struggling at school. Just consider the possibility that they may have a problem with their eyes and rule that out at the earliest possible stage.”

Dr Sebastian Hendricks: “Think of it and be curious.”

Michelle Siequien: “We had a child who was in year 1 who was screened. They went to the optician’s and were prescribed glasses. The child was working well below the expected level. Within a year that child was back up to where her peers were and achieved the expected level at the end of key stage 1. That’s the power of eyesight screening and I am sure we will find something similar when we start hearing screening.”

Liz Zoccolan: “Remain professionally curious. All behaviour is unmet need of some description. Those hidden disabilities are easily missed when they are mild to moderate.”

- This webinar is available to watch back free of charge via <http://tinyurl.com/yyx97fuk>

Further information & references

▶ Holden et al: *Global prevalence of myopia and high myopia and temporal trends from 2000 through 2050, Ophthalmology* (123, 5), 2016:

<http://tinyurl.com/3r3hmv5k>

▶ Li et al: *Epidemiology of dizziness and balance problems in the United States, The Journal of Pediatrics*, 2016:

<http://tinyurl.com/yc69tyf>

▶ Lieu et al: *Hearing loss in children, JAMA*, 2020:

<http://tinyurl.com/238xatru>

▶ Moore, Zobay & Ferguson: *Minimal and mild hearing loss in children: Association with auditory perception, cognition, and communication problems, Ear Hear*, 2020:

<http://tinyurl.com/5n8ntmf7>

▶ Zhang et al: *Myopia incidence and lifestyle changes among school children during the COVID-19 pandemic, British Journal of Ophthalmology*, 2022:

<http://tinyurl.com/yc8zcyj2>

Below is a short selection of the many questions asked of panellists during the webinar, with responses.

For the full Q&A, please visit this page on the SchoolScreener for Schools website:

<https://schoolscreenerforschools.com/webinar-december-23-qanda/> or follow the QR code.



What are the ages best to make sure a child has eye tests?

(Professor Thomson): The general recommendation is that children should have their eyes tested by an optometrist every two years (or more frequently if recommended by the optometrist). Eye examinations are free of charge to children under the age of 16.

In terms of Vision Screening, guidelines recommend that children have one vision test on school entry. Many eye care professionals believe that this is wholly inadequate and have been pushing for further screenings at the ages of about 7 and 11.

Is it not the parents’ responsibility to ensure they are providing care for their child by taking them for regular check-ups? If a school has concerns with a child’s hearing or vision are they not having a discussion with parents to have them checked? How has this become something that a school needs to take on extra?

(Dr Hendricks): I am sorry if I have given the wrong impression. I think it is all our “responsibility” to support our next generation. Ultimately health is parental responsibility. However, when children come to school or to a health service provider, we share some of this responsibility. As you say working together, is the best way to help them, education, health and family. Being able to screen or check for a child’s senses in school seems an excellent use of resources at minimal cost.

(Professor Thomson): Yes – eye examinations are readily available in the UK and are free of charge. However, there is a surprising lack of awareness of the importance of good vision among some parents and eye care is given a low priority. Vision screening is there as a safety net.

What are the main signs to look out for in the early years sectors?

(Professor Thomson): Vision problems can give rise to a wide range of symptoms and signs depending on the type and severity. Symptoms may include reports of difficulty seeing the board/TV, difficulty seeing words when reading, double vision, headaches etc. Signs might include a child screwing up their eyes or covering one eye. More generally, eye problems should be considered in any case where a child is lagging in terms of social/educational development or has behavioural problems.

What would secondary schools use to screen for vision and hearing?

(Professor Thomson): SchoolScreener for Schools provides a simple and cost-effective tool to help schools implement Vision and/or Hearing Screening.

(Dr Hendricks): Many different tools can be used for vision or hearing screening. As those children who do then pass the screening would need to be referred elsewhere the establishment of such screening should be discussed with the local services as resources will need to be available to assess those referred. SchoolScreener for Schools is designed for and can even be modified to be used in different environments even a set up for screening adults exists. If you want to screen children in secondary school then this would apply to all children.

If you have children or young people in whom you consider hearing/vision to be a problem as they show behaviour that might indicate that they can’t hear/see well, such as drifting off in lessons, being unable to focus on tasks in the classroom, misunderstanding tasks given, those who struggle to pronounce clearly, have difficulties learning new words unless they see them written down, who need a lot of time copying things from the screen or struggle reading, then you might want to consider preferring these for formal assessment or at least do a formal check-up / surveillance rather than screening.

As a follow up to the Vision and Hearing/Inclusion webinar, on Tuesdays and Wednesdays at 16.30, Thomson Screening is holding 20-minute online webinars showing how SchoolScreener Vision and Hearing are used. To select a preferred date/time, and to register, please visit <https://meet.zoho.eu/K7CmxG3p0Z>