FIVE QUESTIONS TO ASK WHEN YOU EVALUATE A READER PEN

1

CAN IT BE USED EVERYWHERE?

Reader pens have different solutions for functionality — some need to connect to another device, like a smartphone or a computer, to work. Via a wired or wireless connection, it interacts with the external device's software to use optical character recognition (OCR), dictionaries or text-to-speech. This solution works well if you primarily use the reader pen sitting at a desk.

If you intend to use the reader pen more flexibly and in different locations, like in the library, on the bus and at home, then a reader pen with all functionalities embedded is a better choice. This variant is sometimes more expensive, but it's also easier to use, and it doesn't distract the user. But because everything is embedded, be sure to secure that the reader pen has professional dictionaries from trusted sources.

2 DOES IT HAVE A NATURAL VOICE?

When using a reader pen to aid students with a reading disability, the text-to-voice function must have a natural synthesised voice with high quality. It must be clear and easy to perceive, with low distortion and a high signal-to-noise ratio. It's also vital that the reader pen pronounce the words with high accuracy, so there isn't any doubt about what word it is.

Intonation is also essential. Even small nuances in the language can make it difficult to understand. In the same way, dialects and variants of the language, like American, Australian and British English, influence how easy it is to process the information. The more dialectic variants available in the pen, the better it can meet different users' needs.

3

CAN THE READING SPEED BE CONTROLLED?

The more customisable the reader pen's speaking voice is, the more it can be adapted to individual needs. The ability to control the speed of the voice is vital, not just for people with dyslexia but also for intellectual disabilities. The latter doesn't have the tools for processing information fast and therefore needs to slow the pace of the speaking voice. But you must be able to do this in the right way. Just slowing the speech down will make it sound unnatural.
At C-Pen, we have solved it by adding extra pauses between words and punctuation marks, creating more time for the listener to process the content.

4

MUST IT BE CONNECTED?

Some devices can connect to a cloud-based server via wi-fi which is a feature that makes it easy to share scanned texts or access them on other devices. However, in a school environment, it's a strength not to be depending on a network because if the network connection is weak, it could cause problems when using the device. If students are going to use the reader pen as an aid at exams, it's also vital that it doesn't have any means of connecting to the internet.

5 CAN IT SCAN TEXT FAST?

When scanning text with a reader pen, you move it over the page, line by line. Some pen scanners use a line sensor like an ordinary flatbed scanner. To measure how fast you move the pen, it uses small wheels at the end of the pen. In some cases, an algorithm that tries to estimate the speed is used instead of wheels, which can cause problems when you scan faster.

The most robust way is to use a two-dimensional sensor. The pen can then create a correct image by analysing how fast and in what direction the text moves. Another factor that decides the scanning speed is the processing power. If the scanning pen can manage a high frame rate, it can go faster. But on the other hand, if you try to scan very fast, your movements tend to be inaccurate, which will influence the ability to interpret the text.

EMPOWERING PEOPLE

C-Pen is the original high-quality state-of-the-art pen scanner. Founded in 1998 in Lund, Sweden, we develop and manufacture industry-leading scanning solutions that make it easy to process printed text, empowering people's ability to read, understand and learn.