

Impact of subtitling speed on the viewer experience

Some clients are requesting/expecting higher subtitling speeds. There is some evidence that higher subtitle speeds can be tolerated, and it has been suggested that traditional maximum reading speeds could be more flexible. Does this work for viewers?

Studies and reports show that:

- (Some) viewers can read faster than was previously assumed, because readers speed up their reading as the subtitle speed increases. This goes for both hearing viewers and viewers who are d/Deaf and hard of hearing.
- For same-language subtitles (i.e. descriptive subtitles or subtitles for d/Deaf and hard of hearing people) there is evidence that viewers want verbatim subtitles.
- In one 2024 study of viewers who were used to watching subtitles, 'higher subtitle speeds did not lead to a significant reduction in comprehension'.
- There is some evidence that slower subtitle speeds can also increase re-reading and frustration.
- Some studies have found that very condensed subtitles are less well understood than less-condensed subtitles.



BUT!

There is also plenty of evidence that many viewers find the subtitles they watch too fast.

Research has shown that:

- When watching subtitled media, viewers focus on the subtitles at the expense of the video.
- Viewers spend more of their time watching subtitles as the subtitles get faster.
- Faster subtitle speeds generally increase cognitive effort and reduce comprehension.
- Processing of subtitles becomes increasingly superficial and incomplete as the speed increases.

References: Szarkowska and Gerber-Morón 2018, Szarkowska and Bogucka 2019, Kruger et al. 2022, Szarkowska et al. 2024

References: Liao et al. 2021, Kruger et al. 2022.



What do viewers say?

In a 2024 report, “most participants considered subtitles that were well synchronised to, and accurately reflective of, the audio to be more important than the speed at which they were delivered”.

In a forthcoming study, 23% (of 292 respondents) said that one of the main problems with the subtitles they watched was that they were too fast.

How fast is too fast?

It depends on a number of factors including: age, hearing status, whether the person is used to watching subtitles, what’s going on in the video, how well the subtitles correspond to the speech in the video...

One study highlights the “negative impact of subtitle speed above 20cps”, but more precise research is needed.

References: Research Institute for Disabled Consumers, Ofcom. 2024, UK Subtitling Audience Survey (forthcoming), Szarkowska et al. 2024.

If we drill down into the research...



As subtitle speed rises, proportional reading time increases.



Comprehension declines as subtitle speed increases from 12 to 28 cps (spaces included).



Higher subtitle speeds results in reduced attention to individual words.



More words are skipped as the speed increases. In one study, participants only skipped 29% of words at 12cps, but 35% of words at 20 cps, and 43% of words at 28 cps (spaces included).

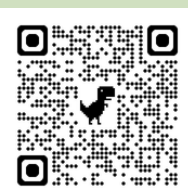
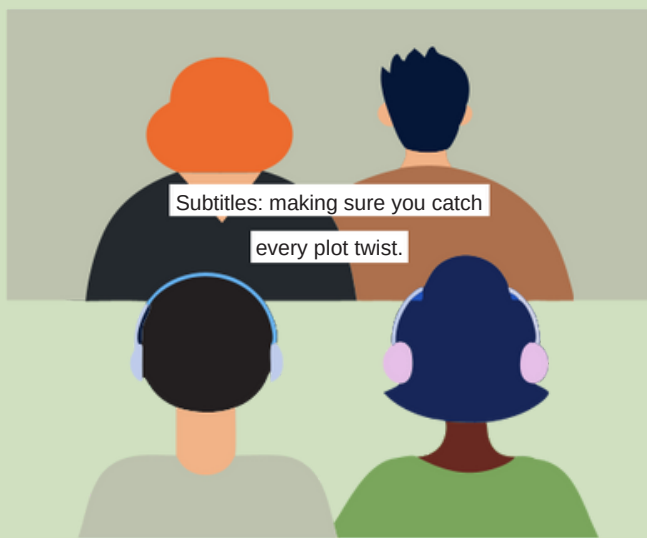


When the reading speed gets to 180 wpm (15-18cps with spaces), participants become less sure that they have understood what they are watching.

References: Burnham et al. 2008, Liao et al. 2020, Szarkowska et al. 2021.

What do we learn from this?

Audiences tend to want same language/descriptive subtitles to be verbatim. They want translated subtitles to be complete and accurate. But this still has to be balanced against the fact that if the subtitles are too fast, viewers will begin to skip subtitles and to miss out on the visuals, and this will affect their understanding and their enjoyment.



Scan me!

Details on studies reviewed for this report as well as their methodologies, can be found [here](#).

Subtitling Audiences Network
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