VIDEOS FOR LEARNING: BEEP BEEP!

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We love trinities (no, not the 'holy' ones). One trinity that we really like is that we as teachers, trainers, instructional designers… must strive to create effective, efficient and satisfying learning experiences for our learners and ourselves. Effective simply means that the learner or the instructor achieves the goals that were intended. Efficient means that they achieve their goal in as little time as possible, expending as little ineffective mental effort as possible, and/or at as little cost as possible. This is the same for the instructor. It's not getting something done as fast as possible, but rather with as little 'waste' as possible. And lastly, enjoyable. That something is enjoyable DOESN'T mean that the learning experience necessarily has to be 'fun' or 'entertaining'. Instead, it's about achieving a sense of accomplishment, satisfaction, achievement because you now know or can do something that you couldn't before; you've learnt successfully. Or, as an instructor, you help a learner achieve success.

In this blog, it's 'just' about one of these – good old – and perhaps a bit boring – 'efficiency'.

Triggered by a study by Dillon Murphy and colleagues (2021) about learning from accelerated video lessons, we decided to find out if what they found had also been found by others. Murphy's team conducted a study in which their participants watched instructional videos at different speeds (normal, 1.5, 2, or 2.5 times faster) to see if viewers learnt and remembered differently from them. They tested remembering (recall) both immediately after viewing and a week later. And what turned out to be the case?

Learning decreased slightly but not significantly with increasing speed to 2x normal speed.
In a follow-up study, they compared:

1. Participants watching a video once at normal speed
   with
2. Participants watching a video twice at 2x speed.

This means that the participants spent the exact same amount of time learning ('watching the video'), but group 1 only watched once and group 2 had the opportunity to rewatch the video, so they went through the material twice (but at a higher speed).

Because repetition – two exposures to the video – is usually seen as something that supports learning, you might have guessed that watching the video twice might be better. However, interestingly in this case, the repetition did not lead to better learning and memorisation.

In a third study, the researchers added a spaced learning condition and compared:

1. Participants watching the video once at normal speed
   with
2. Participants watching the video at double speed twice.
   The difference with the second study was that this time there was a delay between the first and second time the participants watched the video.

The participants in group 2 who watched the video twice at double speed scored significantly better than the participants in group 1 who watched the video once at normal speed.

So, the roadrunners – Beep Beep – spent the same amount of time (watching the video twice with a delay in between) than their fellow 'regular watchers', yet learned better! That's what increasing efficiency is all about!

In our search for comparable research (*One swallow does not a summer make*), we came across Nagahama and Morita (2017). They also studied watching video lessons at 1x, 1.5x and 2x normal speed and found that learning from videos at 1.5 speed was better than normal speed but there was no significant difference between 1.5 and double speed.
Because they used two types of test questions (reproduction and application), they could see that it were mainly application that benefited from the 1.5 speed.

The researchers also asked participants what they thought of the speed via a questionnaire. The participants rated both 1x and 1.5x almost the same on all scales.

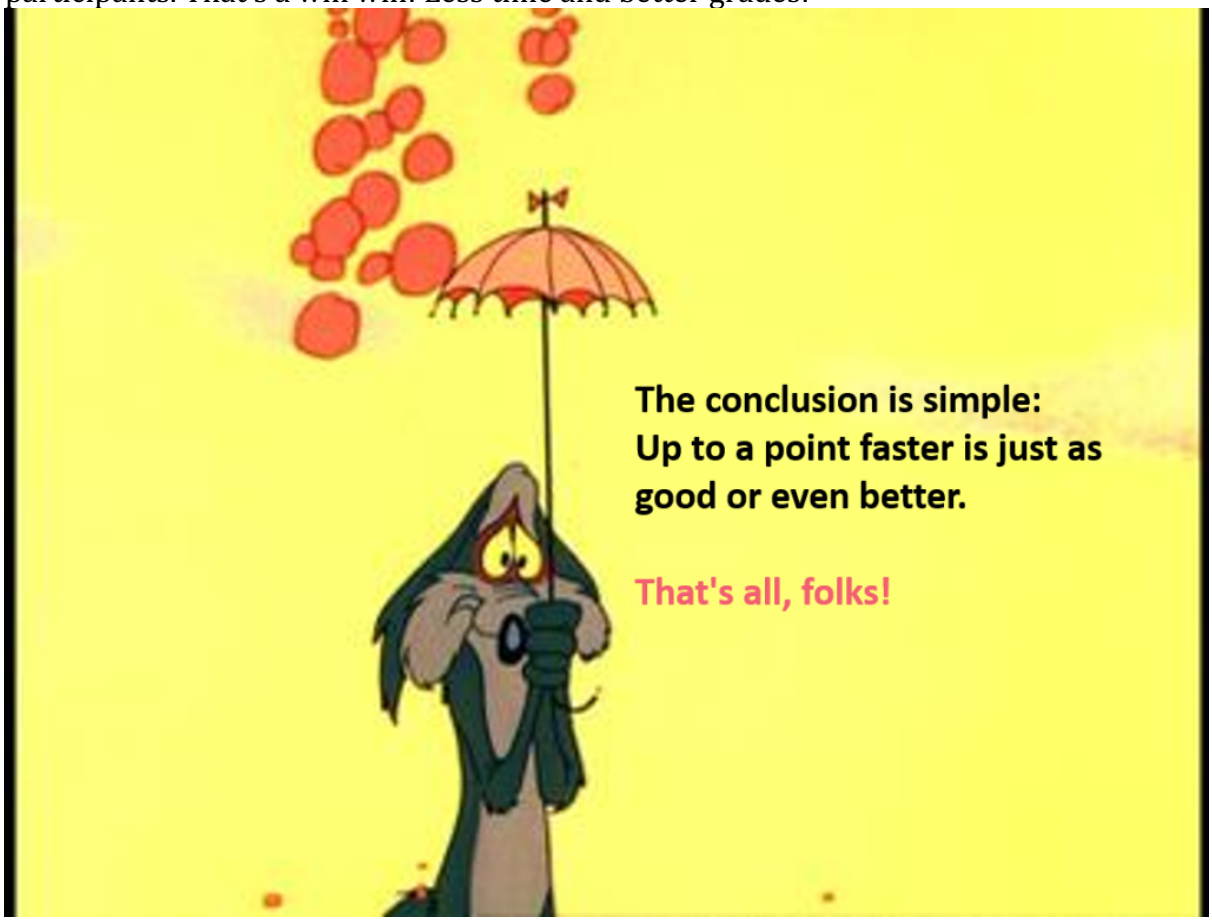
But at 2x, they:

- thought they understood less of the content (which wasn't true; they scored almost equally well)
- felt they couldn't concentrate as well on the accelerated lesson (though they did)

- perceived it to be more difficult to watch and listen to the 2x speed lesson, and
- found the experience significantly less pleasant.

To find out whether the information in the videos was viewed differently, the eye movements of some of the participants were also tracked and analysed. Here they found no difference!

There were other studies as well, such as Lang and colleagues (2020) who found that learners who watched videos at a speed of 1.25x usually got better grades (around 2% higher). They also spent around 20 minutes less on the content than the 'regular speed' participants. That's a win win! Less time and better grades!



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