Learning to run: Possibilities of scrolling text

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Sprinting coaches advise runners to run faster and train them through overspeed training, which accustoms them to a new, faster pace and raises their speed. Reading presents a similar problem. Students typically read slowly because they process individual words rather than larger chunks and cannot simply read faster. This paper focuses on the potential of computer technology, specifically of scrolling text, to "pull" students through reading material in order to improve their reading speed.

　短距離走のコーチは、走者がより速く走れるように「オーバスピード・トレーニング」と呼ばれる牽引装置を用いたトレーニングで、走者をより速い速度に慣らし、実際の走る速度を上げる訓練を行う。外国語を読むスピードに関しても同様なことが言える。学習者は英語を大きなまとまりごとに読めず、一語一語個別に処理しようとするために読む速度が遅く、そこから読む速度を上げることができない。このワークショップではコンピューター技術の可能性、とりわけ「テクスト・スクローリング」によって学習者の読書スピードの向上をはかる方法について議論する。

Why reading faster is like running faster

READING SPEED has been identified as one of the bottlenecks for Japanese students learning foreign languages (Kitao & Kitao, 2008). In our anecdotal experience, students typically have reading speeds of 50-70 words per minute (wpm) for relatively simple and uncomplicated material, with that rate dropping precipitously when more complicated material is presented. This low reading speed is reinforced by Japanese education practices in teaching reading. In Kanno (2008), four reading lesson plans taken from the 2007 *Daigaku Eigo Kyooiku Gakkai Zyugyoogaku Kenkyuu Iinkai* are analysed in terms of scope and sequence. Kanno finds that the activities of the reading class are concentrated into activities which, quoting Richards (1994), make reading "a shared activity conducted collaboratively in pairs or groups." Unstated is Richards' suggestion that views reading as a shared activity that is primarily, if not solely, the property of "higher-ability groups" (p. 58). However, at the average reading speed of most Japanese EFL students, it is difficult to imagine them being in a "higher-ability group." Furthermore, there is nothing within these activities, from representative classes, that addresses the problem of student reading speed.

There seems to be little consensus on just what reading speed is ideal for non-native speakers. Nation (2005) argues that a speed of 300 wpm, based on eye-tracking studies of native language readers, is "the physiological limit on reading speed where reading involved fixating on most of the words in the text" (p. 23). According to Nation a "reasonable goal" is 250 wpm, far higher than the speeds we have found for Japanese EFL students. We have been drawn to the use of extensive reading (see Bell, 2001, for an overview of the relationship between reading speed and extensive reading), so the guidelines of the Scientific Education Group, which promulgates extensive reading in Japan, serve as a more appropriate rule of thumb for our work. They suggest that the most basic 200 words of English should be considered as "sight" vocabulary, that is, words that the learner should identify immediately without decoding. In addition, texts that are primarily composed of this level of vocabulary (for example, *Penguin Easystarts* or *Oxford Bookworm Starters*) should be read at a minimum speed of 200 wpm. After attaining that speed for the basic sight vocabulary, the group recommends that upper levels of graded readers should be read at between 80-100 wpm. Students who read at 120 wpm or more should be able to move to the next level (SSS Extensive Reading Study Group, 2008). As a comparison, Quinn, Nation and Millet (2007) present students with readings drawn from the first 1,000 most frequent words in English (a sight vocabulary 5 times larger than the SEG guidelines), and ask students to read at an initial minimum speed of 92 wpm, (1.5 to 2 times faster than our observations). This underscores the gap that exists between notions of fluent reading and the reading speed of students in Japan.

Champeau de López (1993), after a brief review of the long debate between reading comprehension and reading speed, presents two exercises which she calls "timed readings" and "paced readings". She argues that the time we spend in class with traditional reading activities (text analysis, group work, and tests) could be better spent having students "actually practice, under controlled conditions, what they are supposed to be learning, that is, reading." Her paced reading activity, where the teacher acts as a timekeeper, roughly approximates our aim in increasing reading speed, supplemented and improved by computer technology.

The title of our paper comes from viewing reading as a physical skill similar to running. We build our argument upon a method of training athletes to run faster, "overspeed training", where the athlete is either physically connected, via a sufficiently long elastic cord, to a faster runner or holds on to a handle connected to a machine and is "forced" to run faster than normal. The theory behind this training method is that as the athlete sheds extraneous movements and efforts, speed improves (Corn & Knudson, 2003). While there is some debate in athletics circles about whether and precisely how overspeed training works, we adopt this notion as a metaphor (see Figure 1 below).

Figure 1. Overspeed training

In transferring this training metaphor to reading, we turn to computer technology to provide the overspeed "pull". We argue that scrolling text for reading, like overspeed training, can force the reader's eyes to move more rapidly through teacher-selected texts. Our assumption is that readers can learn to look for the main ideas more quickly as the speed of the text is increased. Although this idea is intuitively straightforward, there is as yet no definitive research to support our claims. However, we are actively involved in gathering data and encourage our readers to try the practical steps outlined below to create their own scrolling text in an effort to help students improve reading speed.

Creating scrolling text

QuickTime technology, developed by Apple, provides classroom teachers with a fast and efficient way to create scrolling text that can be used with students, either in class or over the Internet, to attempt to "pull" them to higher reading speeds. In the following section, we present a basic explanation of how to turn a sample reading into a scrolling text. In order to create scrolling text, you will have to purchase QuickTime Pro (available at http://www.apple.com/quicktime/pro/). This software can also be used for creating subtitles and for modifying movies for classroom use.

In creating scrolling text, a reading is marked with "text descriptors" inserted at appropriate points in the text. Although Apple offers a range of tutorials online to help users of Quick-Time Pro to create scrolling text, the tutorials are often very difficult to follow and are not written for an audience of classroom teachers. In the following section, we describe how to create scrolling text in what is intended to be a reader-friendly, step-by-step approach. Our hope is that teachers can use these steps along with our sample online files to create their own materials using scrolling text (see Appendix 2 for the URL and login information to access these sample files).

Basic steps for creating scrolling text at 100 wpm

First create a text document in your word processor. Your text can be taken from any electronic document (PDF files, text files, or online text) or can be written in your word processor and saved as "plain text." After you have the text, paste the following at the top of the document to create scrolling text:

```
{QTtext}{font:Geneva}{plain}{scrollIn:on}
{continuousScroll:on}{size:18}{textColor:
65535, 65535, 65535} {backColor: 1, 1, 1}
{justify:left}{timeScale:30}{width:414}
{height:234}{timeStamps:absolute}{lan-
guage:0}{textEncoding:0}
```

Place your first time marker right after the above text. [00:00:00]

Next enter your text. Determine the scrolling speed you want, and add time markers at the appropriate locations in the text. You can use the "word count" function in your word processor to do this. To illustrate this process, we have chosen the public domain story of *Little Red-Cap* (Grimm Brothers, n.d.) and have set the scrolling speed at 100 wpm.

> Once upon a time there was a dear little girl who was loved by everyone who looked at her, but most of all by her grandmother, and there was nothing that she would not have given to the child. Once she gave her a little cap of red velvet, which suited her so well that she would never wear anything else; so she was always called "Little Red-Cap."

> One day her mother said to her: "Come, Little Red-Cap, here is a piece of cake and a bottle of wine; take them to your grandmother, she is ill and weak, and they will do her good. Set out before it gets hot, and when you are going, walk nicely and quietly and do not run off the path,

or you may fall and break the bottle, and then your grand-mother will get nothing; and when you go into her room, don't forget to say, "Good morning", and don't peep into every corner before you do it."

"I will take great care," said Little Red-Cap to her mother, and gave her hand on it.

The grandmother lived out in the wood, half a league from the village, and just as Little Red-Cap entered the wood, a wolf met her. Red-Cap did not know what a wicked creature he was, and was not at all afraid of him.

"Good day, Little Red-Cap," said he.

"Thank you kindly, wolf."

"Whither away so early, Little Red-Cap?"

"To my grandmother's."

"What have you got in your apron?"

"Cake and wine; yesterday was baking-day, so poor sick grandmother is to have something good, to make her stronger."

"Where does your grandmother live, Little Red-Cap?"

"A good quarter of a league farther on in the wood; her house stands under the three large oak-trees, the nut-trees are just below; you surely must know it," replied Little Red-Cap.

[00:03:00]

Now save this as a "plain text" file in your word processor (all of the work can also be done with any text processor such as Note-pad, Text Edit, BBEdit). Next, open this plain text file in QuickTime Pro and save it as a QuickTime movie – now you have scrolling text at 100 words per minute. To slow the text to 50 wpm, change the final time marker to [00:06:00], and to speed up the scrolling text to 200 wpm, simply change the final marker to [00:01:30].

If you take a closer look at the QT text header, you will see descriptors for the text that can be easily modified to make the scrolling text appear the way you want it to. For example, you can change the font and the size as well as the colors of the text and the background. You can also change the justification of the text and the language. English is "0" and Japanese is "11". You may also want to modify the height and the width of the movie depending on whether it is played on a computer screen, a TV, a projector or an iPod (see the QuickTime document folder refer-enced in Appendix 2 for more information on sizing movies).

After you become comfortable with these basic steps for creating scrolling text at specific reading speeds (text tracks), you will most likely become interested in further exploring the potential of QuickTime Pro to help you edit video clips and do your own subtitling for teaching purposes. Some samples of these further uses of QuickTime Pro are available at our online site (see Appendix 2).

In the classroom and beyond

Because these steps work with both Mac and PC, making text tracks is an excellent way to promote reading speed inside and outside the class. Teachers can use this idea to keep students on-task when presenting them with written material in class, as well as providing support for weaker students while still challenging the more advanced students. As the Apple website notes, the text tracks that are created through this process are quite small, so they can be easily streamed from websites for use outside of class. For this reason, text tracks are perfect for both the classroom presentation of text as well as for delivering text online in a way that challenges and motivates students.

This paper specifically deals with the mechanics of using QuickTime Pro to create scrolling text and only touches on the myriad possibilities for using the application to enhance language learning. While the application of this technique is new and based only on our own classroom experience, we feel that the use of scrolling text has great potential in teachers' efforts to improve student reading speed. Our technique adds a new and interesting dimension to presenting learning materials and can be used in ways that are limited only by a teacher's imagination. Using QuickTime in this fashion allows for the creation of materials that previously required the use of high-end software packages for movie editing. Through the use of the technique for creating scrolling text as outlined above, teachers can now conduct their own experiments to determine reading speed gains and can also investigate the precise mechanisms connected to increases in reading speed. It is our hope that this brief introduction to the creation of scrolling text will help classroom teachers gain confidence in using a simple tool to help their students become faster readers.

Bio data

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Appendix 1

Some QuickTime resources

- The QuickTime Pro purchase link can be found at: http://www.apple.com/quicktime/pro/
- A basic description of the process of creating text tracks can be found at http://www.apple.com/quicktime/tutorials/texttracks.html
- For a more detailed description of the text descriptors themselves, check http://www.apple.com/quicktime/tutorials/textdescriptors.html

Appendix 2

Source files available at http://noribil.com/jalt_09/

[name: JALT09 / password: QuickTime]

Folder list and descriptions

- Obama speech folder:
- QuickTime text file for reading at 100 wpm
- Scrolling text movie at 100 wpm
- QuickTime text file for reading at 300 wpm
- Scrolling text movie at 300 wpm
- QuickTime documents folder:
- Sizing QuickTime movies for TV or iPod
- Working with text tracks tutorial
- Apple – QuickTime text descriptors
- Apple – QuickTime text tracks
- QuickTime color chart
- Reading movies 500 words folder:

16 sample timed-reading movies

Little Red-Cap folder:

- QuickTime text file for reading at 100 wpm
- Scrolling text movie at 100 wpm
- QuickTime text file for reading at 200 wpm
- Scrolling text movie at 200 wpm
- Full *Little Red-Cap* text with timing markers for 100 wpm

Some further ideas folder:

- Boston Legal teacher-subtitled video clip
- Welcome to the Future teacher-subtitled video clip
- Keynesian economic theory teacher-subtitled video clip
- Obama victory speech with scrolling text