

Eye movements and Linguistic landscape

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Linguistic tokens on signs have a major informative and persuasive role in the landscape of cities and villages, and competition among signs on a-boards, shop windows, and billboards for the attention of passers-by is very prevalent. The different languages on commercial signs reveal the existence of different (minority) language speakers in that region as well. The aim of the present study was to combine the study of eye movements with linguistic landscape using the eye tracking methodology in order to objectively measure people's observation of linguistic landscapes and to realize which languages on the signs are attractive to the viewers.

Research questions

- ✓ Which languages of the linguistic landscape are more attractive?
- ✓ Which type of signs of the linguistic landscape are more attractive?
- ✓ Is there any difference between gender and native language of the participants regarding the average fixation count and total fixation duration in the signs with Dutch, English, and Frisian languages?



Heat map of fixations. The red areas received the highest number of fixations or longest times.



Gaze plot of fixations of all participants. The fixation of each participant is a coloured dot.

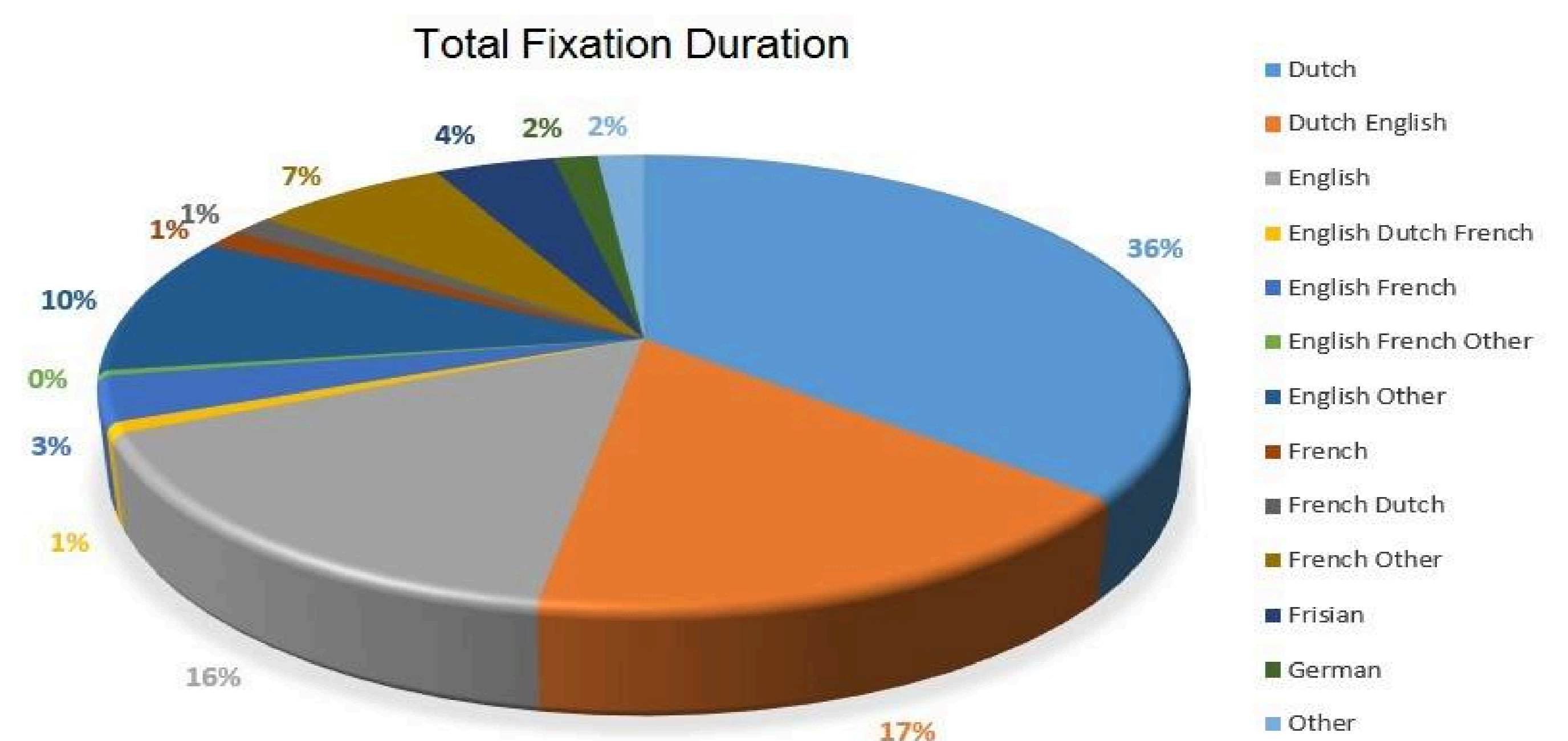
Eye tracking in the streets of Leeuwarden

Eye movements of 44 students were recorded while they viewed some recorded short videos and a set of 61 images taken from linguistic landscape of some parts of the multilingual city center of Leeuwarden. The research utilized an eye tracking system for recording eye movements. Next step was visualization of the data by creating heat maps and gaze plots of fixations. Statistical analysis defined: a. which languages and signs on the linguistic landscape attracted the attention of the participants and b. the possible effects of gender and native language on eye movements of participants regarding to signs with Dutch, English, and Frisian texts.

Place and language of signs do matter

Results showed that overall eye movements' parameters of average of fixation count and total fixation duration were greater in the following signs: poster on shop window, stone inscription, a-board, and shop name on window. Signs on a shop canopy and flat blade street names received the least fixation metrics.

The monolingual and bilingual signs that had the highest average of fixation count and total fixation duration were in Dutch, Dutch-English, English, and English-Other. Signs that included French, German or minority languages received less attention. Interestingly, gender had some effects on the average of fixation counts on the Frisian language on the image elements. Male participants paid more attention to Frisian signs. However, native language of the participants had no significant effect.



Changing the linguistic landscape in favour of minority languages?

The findings suggest that Dutch and/or English in combination with other(s) are the most attractive languages on the signs. Results of the proportion of different signs in a linguistic landscape in the present study may have some implications to linguistic landscape actors. In order to make a language visible and help to revitalize any minority language in a society, language actors can apply minority languages on the preferred signs as the present study suggests: ad (poster on shop window), stone inscription, a-board, and shop name on window signs. It may persuade the passers-by and help minority language speakers to preserve their language in the society.