IS1404 E-READ: Evolution of Reading in the Age of Digitization

Position paper

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WG(s): WG1 (if my expertise can be of use in another WG as well I'm always willing to help)

1. **Potential research contribution** in light of, or linked to
A. WG interest and Scientific programme: **WG1**

Within my doctoral research, I have developed a method (using a backward masking paradigm) to measure the legibility of fonts for children with low vision and normal vision. Also, this method has been demonstrated successfully within legibility research (due to a consultancy service that I did for the MIT and Monotype). This method can contribute to your quantitative evaluation, as it does not seem very obvious to subject young children to eye movement apparatus. Moreover, literature shows that eye movements are consistent (automatically) from the age of about 9 years.

Furthermore, I find that there is little research into the typeface. This could be an item (important legibility matter) in WG1. On smartphones, for example, only a sans serif font is used, while within paper books serif typefaces are used (unless the books are for children). The discussion about the legibility of serif versus sans serif typefaces seems an endless debate in current literature. We can assume that one typeface is better than another dependent on the medium and/or different reading materials. Also studying the use of contrast (within a serif typeface) versus low-contrast (within a serif typeface) while reading on screen in the age of digitization may be an interesting discovery. My own research showed that beginning readers (6 to 10 years) make fewer mistakes with a serif typeface while their teaching and reading materials are mainly dominated by sans serif typefaces.

Side note: From the designer point of view there are fundamental objections towards scientific experiments carried out in the study of legibility. First typographic variables are discarded when conducting reading research. They are not considered valid, full- fledged and/or determining variables that can have an influence on the reading behavior. Different results in such studies are not ascribed to the use of different fonts. Secondly it concerns the choice of or motivation for the test material used in the study. Although in the latter case, typographic variables are usually perceived as interesting, the reading/legibility studies carried out by most scientists are often overshadowed by a strange and/or irresponsible choice of typefaces and/or layout. The academic community should support the fact that typeface design (= applied art) expertise has an important role to play within reading research.

B. Action objectives (pages 7-10 in the MoU):
My expertise can be of use in the following objectives:
- to provide recommendations for optimal text/content design for educational publishing;
- to facilitate exchange of researchers, prioritizing juniors and early career researchers;

- Relevant indicators of reading (different kinds of texts) on paper vs. screens;
- Recommendations for industry (by means of the typeface) (developers and publishers of e-books, textbooks, and educational software);
- Recommendations for the pedagogical field (by means of the typeface);

My expertise can help in the potential impact of (by means of the typeface):

- establishing sustainable and long-term venues for collaborative, empirical reading research;
- developing a genuine European research profile in empirical research on reading.
- facilitating the emergence of new reading research teams and labs by connecting junior/early career researchers with senior ones;

My expertise can be of use for the beneficiaries:

- C) Policy makers. The Action will provide evidence-based recommendations on optimal and appropriate use of print and digital texts for different purposes of reading.
- D) Publishers; the book industry. The Action will provide industries and professionals with up-to- date knowledge of differences between digital and print reading and would make much easier the decisions which medium to use for a given purpose.
- E) Reading/literacy promoters (e.g., EU-Read). The Action will provide evidence-based knowledge on the effects of digitization on various kinds of reading materials.

2. Interest in

A. organizing and/or participating in a **short-term scientific mission (STSM).**

Optional: pursuing what research questions/projects; where to/with whom; linked to what objective(s) of the Action:

As a design (legibility) researcher, typeface legibility/type design/typography will be the core of my influence to this project. Any possible research questions/projects related to this matter are valuable to me. I'm happy to get involved in either participating or organizing with other (design) research institutes that would engage in objectives described above. Please note that type design (for legibility purposes) is not purely a technical process but rather a methodological one.

Reading is one of the most complex skills that humans acquire. It becomes automatic and is deeply ingrained that one cannot turn it off, except type designers. People in charge of designing what everyone reads are therefore the best ones to judge type. Research work related to reading and legibility is one where type designers are usually not involved. This situation starts to change where there is a shift towards collaborations between designers and psychologists and designers becoming design researchers. Type designers have been successfully designing type for five centuries, and yet the striking majority has had no contact with reading and legibility research.

As the University of Reading (prof. Alison Black) is involved in the project, this might be of huge interest to me. At the Reading University, the department Typography and Graphic Communication has achieved the highest GPA score (3.51) in UoA 34 (Art and Design: History, practice, theory), and the best REF result at the University of Reading. They have one of the best MA's in Type Design and also organize type design courses (TDi). If possible I would like to participate as a student and share my knowledge as a selected visitor in this course. Together with prof Black I would love to start up discussions/workshops for type/typography on screen.

B. organizing and/or participating in a **Training School** (please indicate what kind of training [theoretical; **methodological**; technical]).

Optional: linked to what objective(s) of the Action:

As a design researcher I can share knowledge about typeface legibility and how to guarantee the internal and external validity of test material. Within typefaces, design parameters can be studied by examining the balance between homogeneity and heterogeneity in both form and rhythm. Their influence on legibility can be tested using a carefully constructed psychophysical method. This can result in a set of design guidelines or in a new typeface for a specific purpose.