

Typography and dyslexia: A preliminary study on university students

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Specific fonts for people with dyslexia are designed under the assumption that text readability can benefit from decreased letter confusability. Such an assumption as well as authoritative recommendations about font usability (www.bdadyslexia.org.uk/) need stronger support from carefully controlled empirical research (Rello & Baeza-Yates, ASSETS 2013). In a preliminary study we asked University of Trieste students (18-33 yr), either diagnosed with developmental dyslexia (DD= 8) or normal (N= 31): [T1] to rank texts printed in 7 different fonts (Times + 6 new fonts), on the basis of first-sight perceived readability; [T2-4] to read aloud or discriminate material printed in the individual best/worst fonts. New fonts included candidate dyslexic friendly features (e.g., longer ascenders/descenders, sans serif, variable stroke width). Spacing (standard vs. 11% increased) was a within-subjects factor in the experimental design of T2.

[T1 - ranking] DD and N participants produced strongly correlated rankings ($r= 0.80$). The sans-serif wider-below font was ranked last by all.

[T2 - reading] Participants read aloud 4 short texts printed in the individual best/worst fonts, with standard vs. increased spacing. Error rates were low (2.3 vs. 0.23 wrong words out of 354, in DD vs. N participants, respectively). Increased spacing and perceived readability interacted in facilitating reading speed in N participants, depending upon their average performance level.

[T3 – lexical decision task] We used a paper-and-pencil go/no go (positive) version of LDT with pseudowords (derived from words by substitution of few letters) as negative items. Unexpectedly, highly proficient N participants performed better on material printed in the worst font. No effect of font was obtained in lexical decision by DD and less proficient N participants.

[T4 – same-different matching of letter strings] The task – designed to measure susceptibility to crowding – revealed a slight superiority of the best font in DD and worst N participants.

In general, the subjective ranking of fonts considered in this study was not a strong predictor of individual performance in objective tasks. LDT performance and reading aloud efficiency were highly correlated ($r= 0.62$). The letter matching task revealed a “good font” superiority effect consistent with the notion that people with DD are highly susceptible to crowding.

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