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Serious games as a level playing field for early literacy

Glatz, Toivo Kjell

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Propositions

accompanying the dissertation

Serious games as a level playing field for early literacy:

A behavioural and neurophysiological evaluation

by Toivo Glatz

- 1) Every digital game-based learning tool requires careful consideration of its intended training goal, implementation, target group and content characteristics. Because all these factors interact, experimental evidence from a single study is often not generalizable (Chapters 2, 3 & 7).
- 2) Cross-linguistic differences in the importance of early literacy skills for long-term reading outcome may only partially explain the success or failure of digital game-based literacy studies. Intervention properties like target population, game contents and training intensity are at least equally important (Chapter 3).
- 3) Playing the Dutch version of GraphoGame beyond a child's mastery of letter sound knowledge has no effect if phonological awareness skills are too low (Chapter 3).
- 4) Visual and auditory event-related potentials reflect both long-term cognitive maturation as well as short-term training effects, and can in principle be used as a measure for training effectiveness (Chapters 4 & 5).
- 5) Modelling of nonlinear interactions of single trial event-related potentials and behavioural measures deepens our understanding of reading development in the brain (Chapters 4 & 5).
- 6) Game training duration should exceed five hours on task for short-term improvement of reading fluency, whereas long-term benefits require many more hours (Chapter 6).
- 7) Reading training through digital game-based learning can be more enjoyable than reading a book (Chapter 7).
- 8) Digital game-based learning does not yet provide a level playing field for early literacy (Chapter 7).
- 9) Unannounced fire drills and forgetting to press the record button do not go well with electroencephalography research (personal experience).
- 10) The combination of some data and an aching desire for an answer does not ensure that a reasonable answer can be extracted from a given body of data (John Tukey).