

Computerized system for the screening of Specific learning and language disorders within bilingual children



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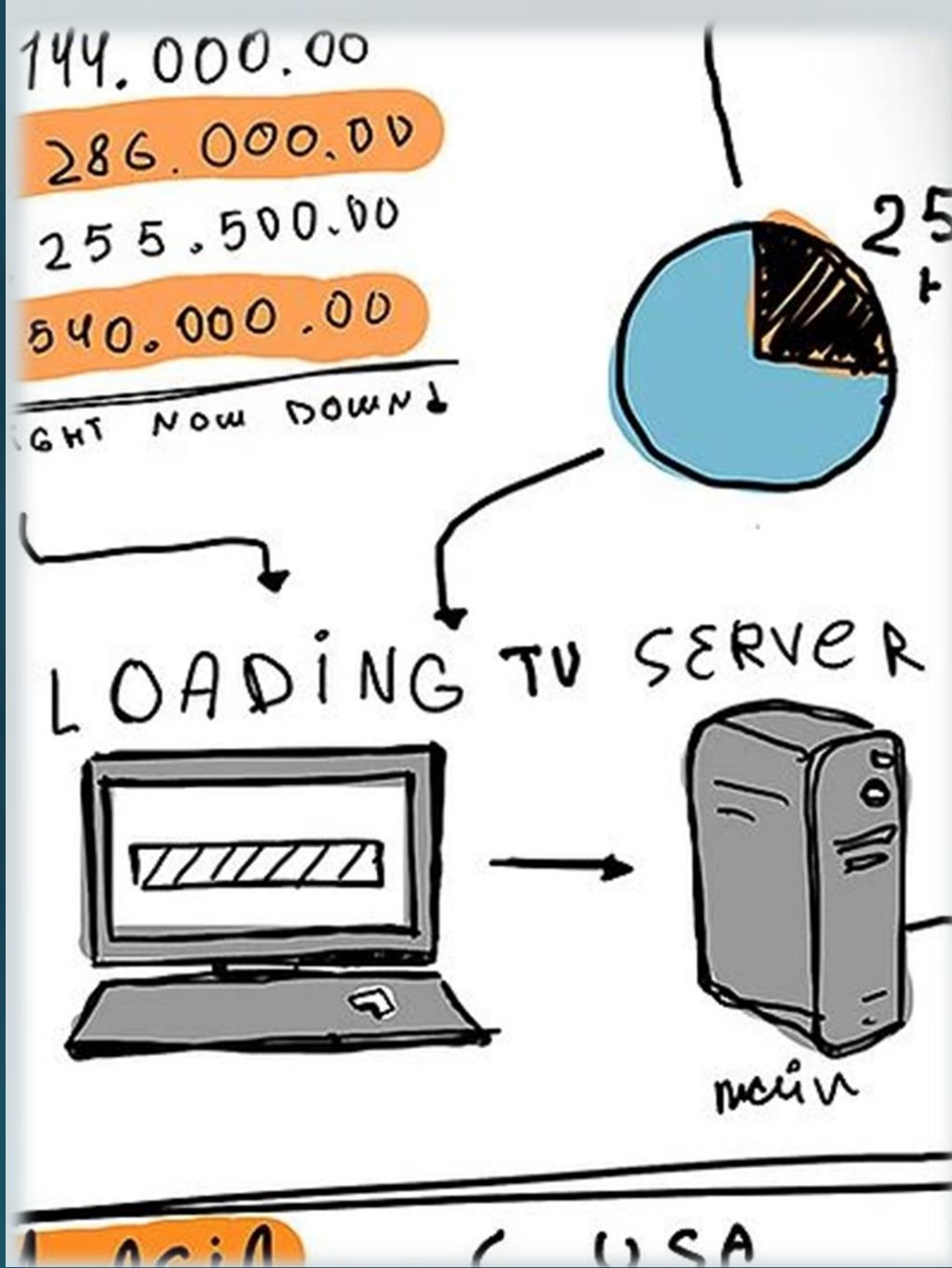
Background

- with an increasing number of bilingual children, education and health care professionals take risks of misdiagnosis (under-/overdiagnosis) of developmental language disorders (DLD) and developmental dyslexia (DD)
- need for methods and trained professionals to distinguish poor language proficiency due to bilingualism from DLD/DD
- need to define markers to identify the risk of DLD/DD in bilingual children
- possible implementation solutions:
 - bilingual assessments through bilingual SLPs (rare)
 - language-universal assessment (never truly language-universal)
 - language specific assessment with automatized analysis



Objective: language specific screening batteries with automatized analysis

- selection of languages (representative of language families, linguistic communities in Italy)
- selection of language-specific clinical markers (considering amount of exposure)
- design of corresponding screening tasks
- implementation into a computerized screening and evaluation system
- administration to typically developing (TD) bilingual children
- evaluation of the tests and the system, definition of the final version
- administration to bilingual children with DLD/DD
- analysis of the discriminating power of the screening tests (specificity and sensitivity)



		English-Italian	Spanish-Italian	Italian-German	Mandarin/Wenzhounese-Italian
Developmental Language Disorder (DLD)	phonology	nonword-repetition tasks (NWRT)			rhyme/onset/tone detection
	morphology/syntax	L1 (past) tense marking	verb morphology (3rd pers. pl., finiteness); direct object clitics	L1 verb morphology; clitics	L1 aspect marking; negation
		L2 article-noun-agreement		L2 case-marking; subject-verb-agreement	L2 verb morphology; clitics
	lexicon	conceptual vocabulary store (especially verb knowledge); → (receptive) picture-matching tasks (see e.g. CLTs)			
Developmental Dyslexia (DD)	reading	syllable, word, nonword & sentence reading speed & accuracy			
	metaphonology	rhyme/tone/accent detection, phonological blending, syllabic inversion			
	others	RAN digits; dynamic reading assessment; neuropsychological/linguistic skills			visual attention, character analysis

Outlook

Implementing language-specific and quasi-universal (dynamic assessment, visual/auditory skills) tasks, we will walk a thin line between the most promising and the most applicable paradigms. Integrating recent research findings and merging them with **user-friendly soft- and hardware**, the outcomes have important economic as well as non-economic implications for health and education services across Europe.



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