

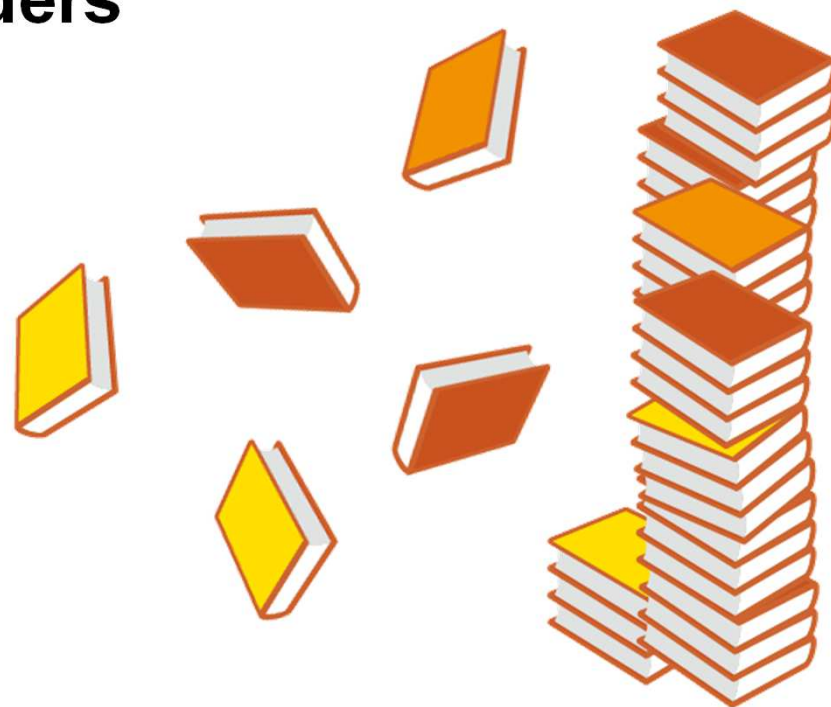
Achieving functional literacy for struggling DHH readers



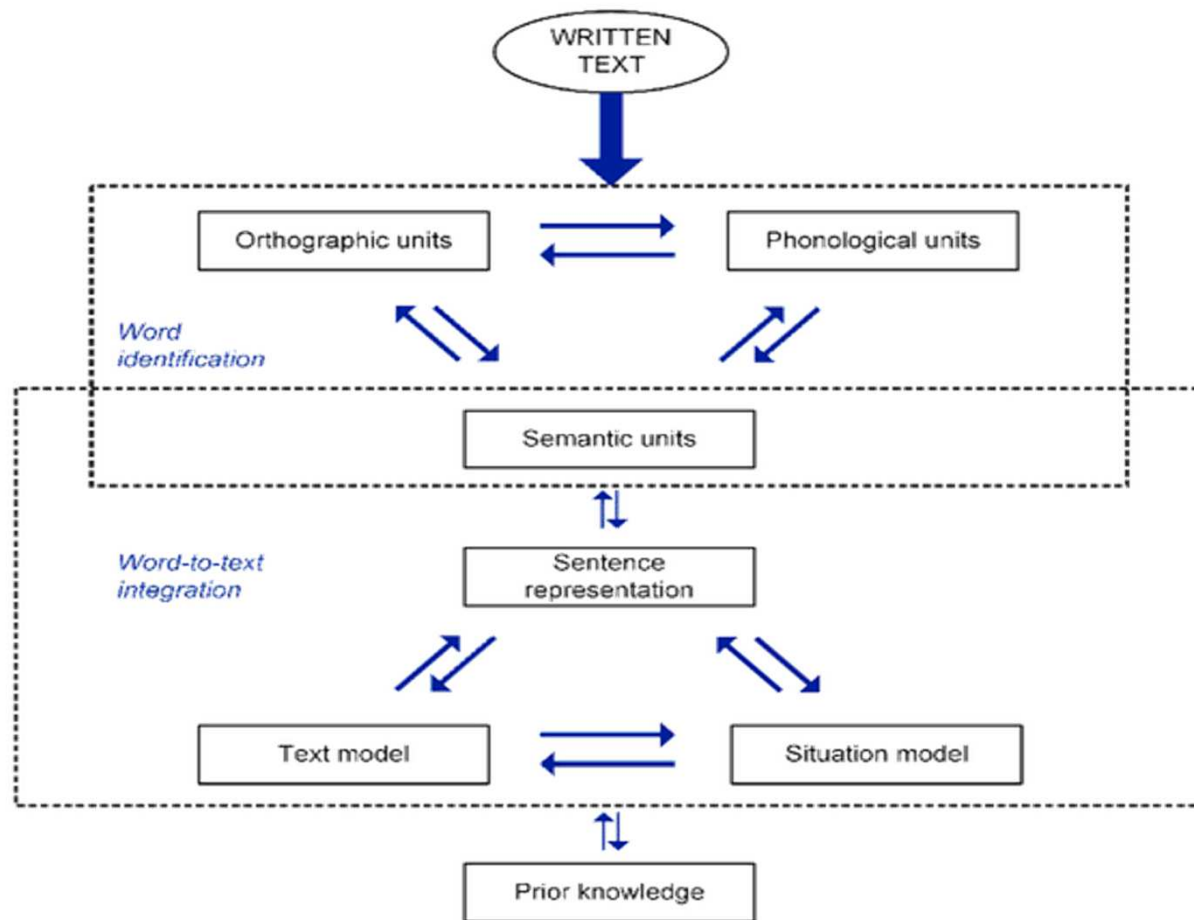
Loes Wauters en Hille van Gelder
7-11-2019

Welcome!

- **Model of reading comprehension**
- **Word Identification in DHH readers**
- **Interventions for adolescents**



Model of reading comprehension



Verhoeven & Perfetti (2008)

Reading of DHH adults

- **80 DHH adults from the Netherlands**
- **30 to 80 years old**



Reading of DHH adults



Weak readers:
Difficulties in all reading areas



Superficial readers:
Difficulties in the deeper meaning of words and texts

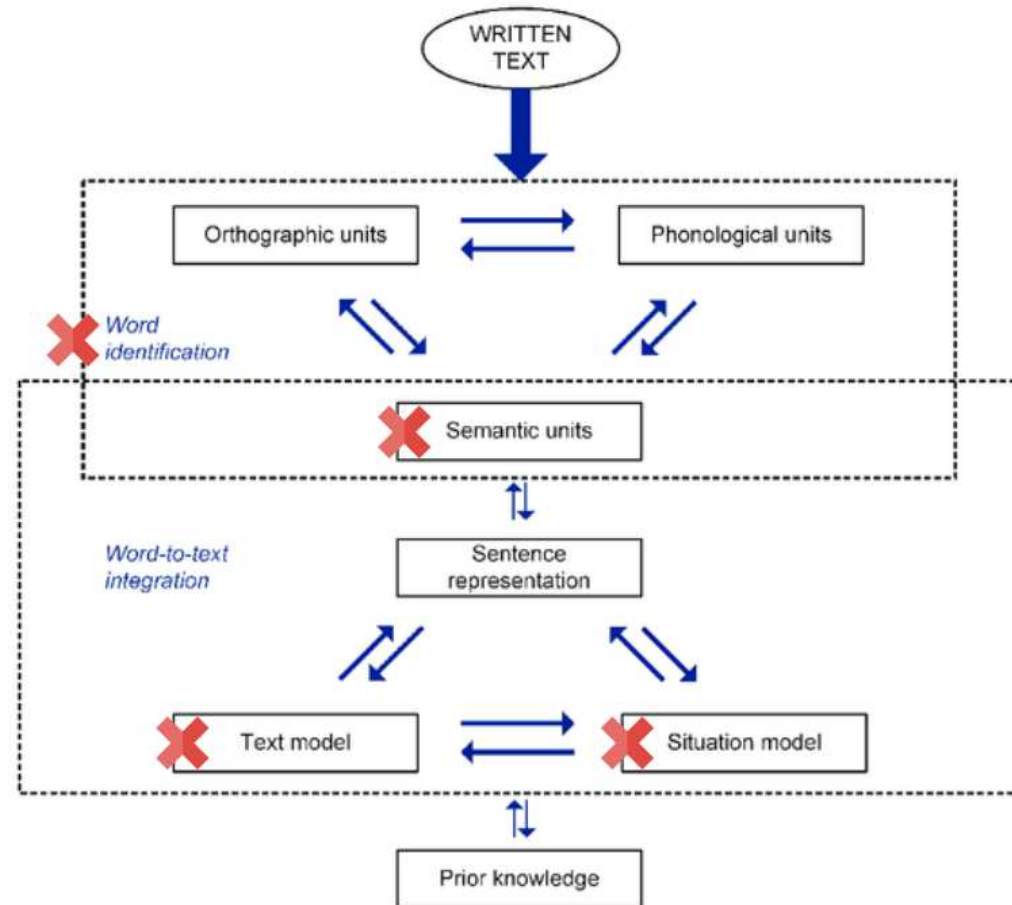


Comprehending readers:
Comprehending at least at the average level of 16-year-olds

Weak readers



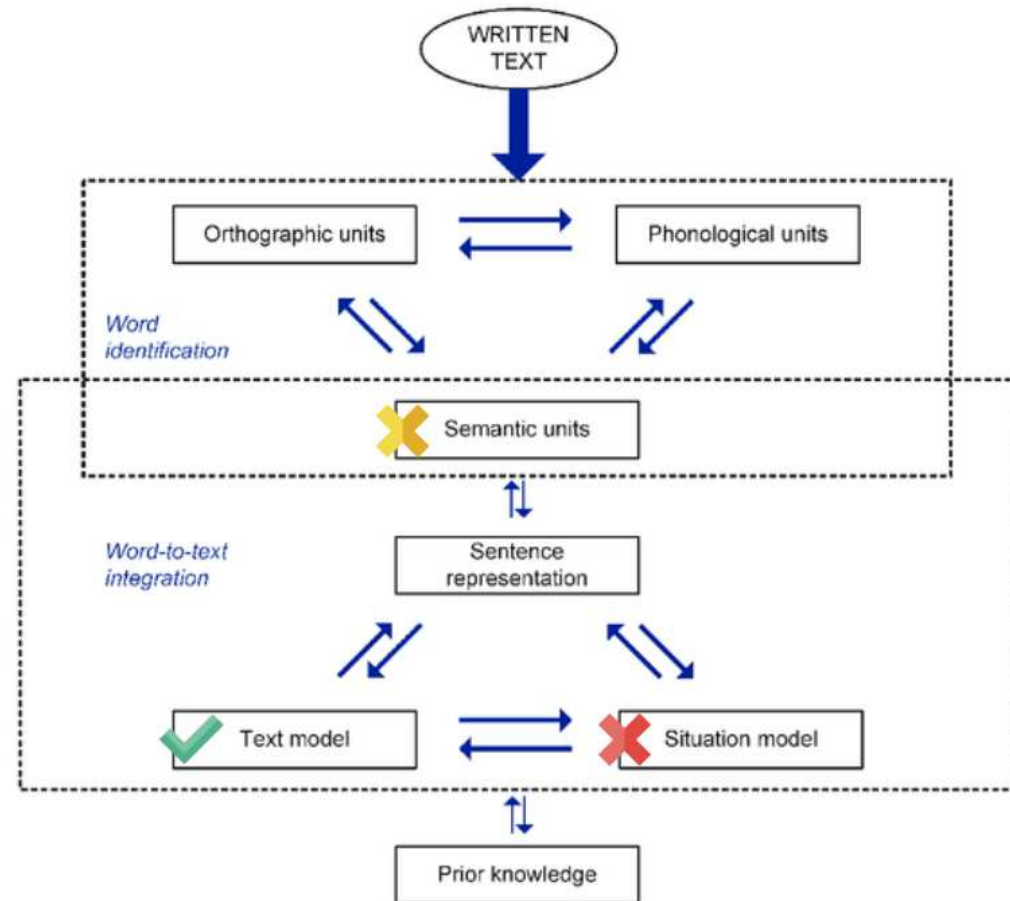
Difficulties in all reading areas



Superficial readers



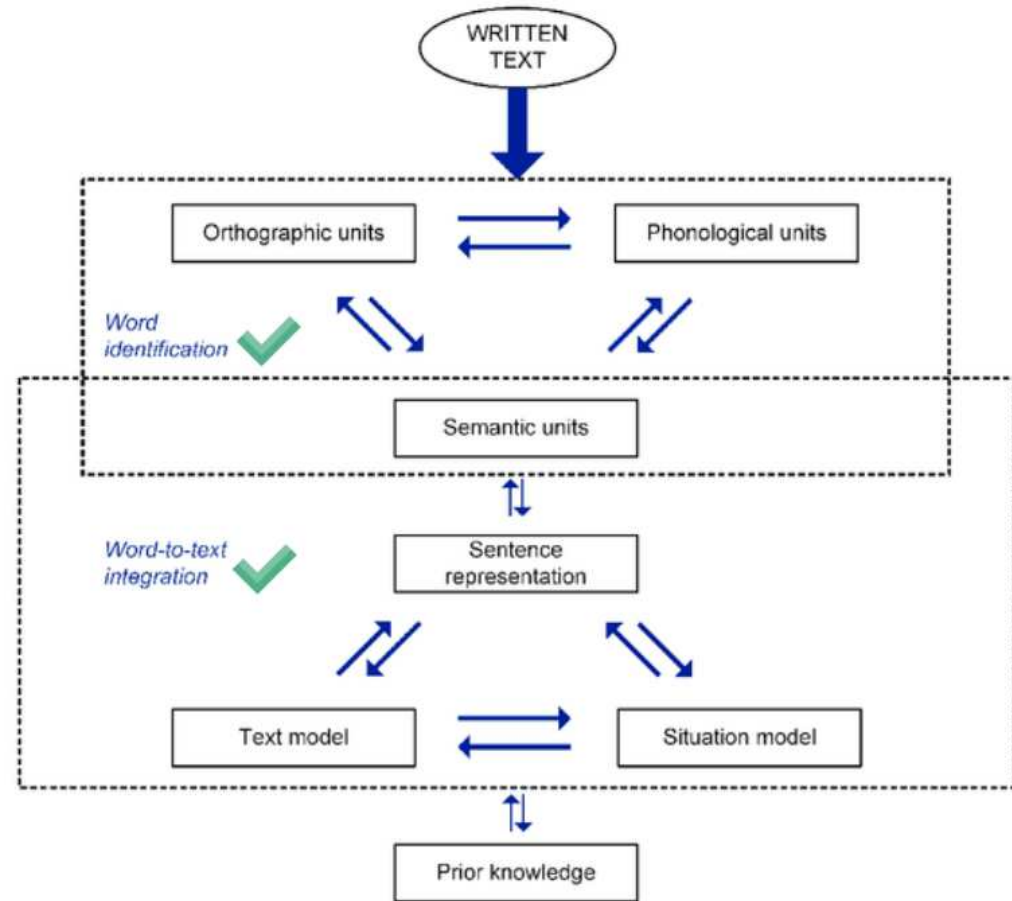
Difficulties in the deeper meaning of words and texts



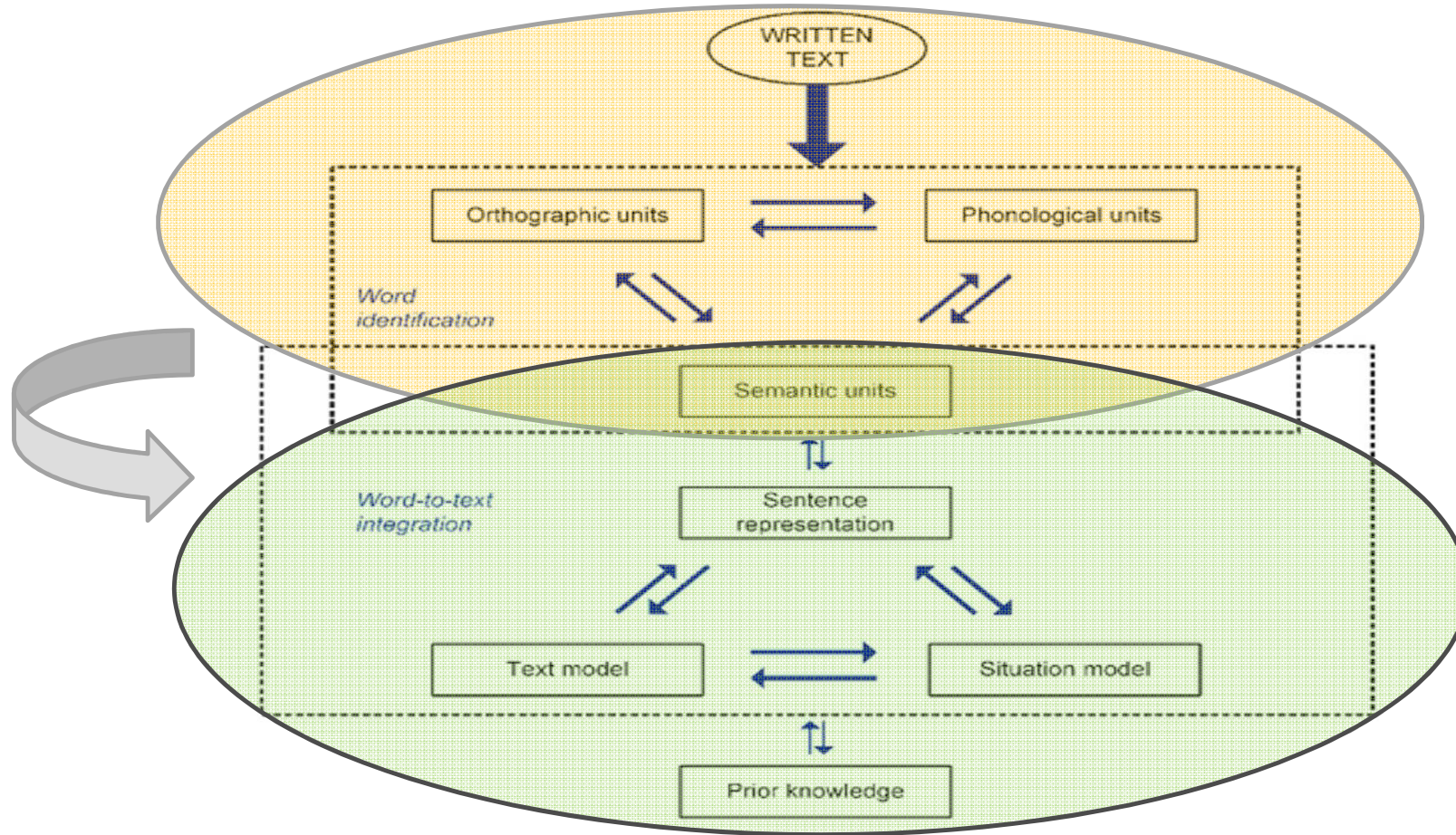
Comprehending readers



Comprehending at least at the level of 16-year-olds



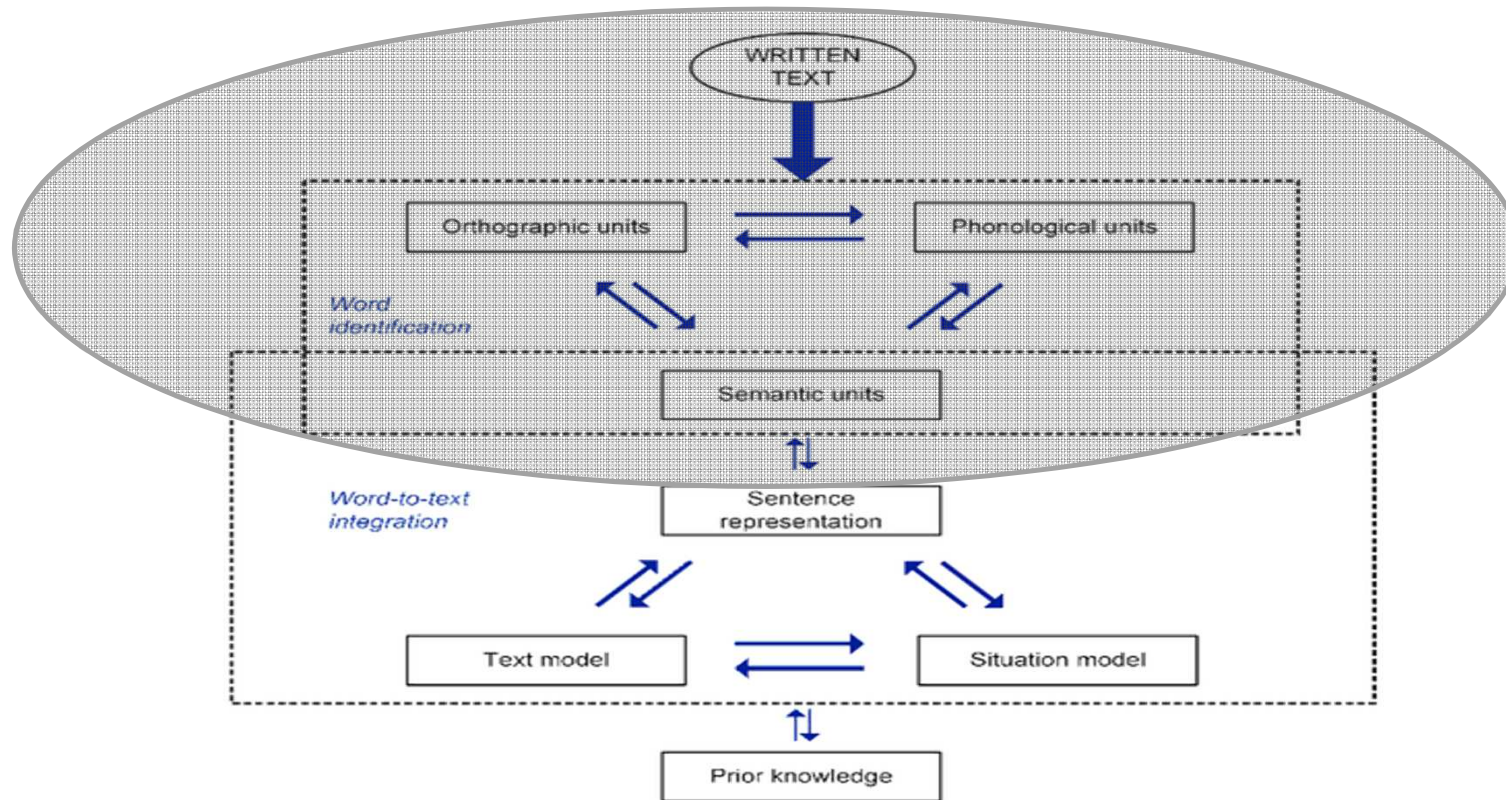
Completing the model



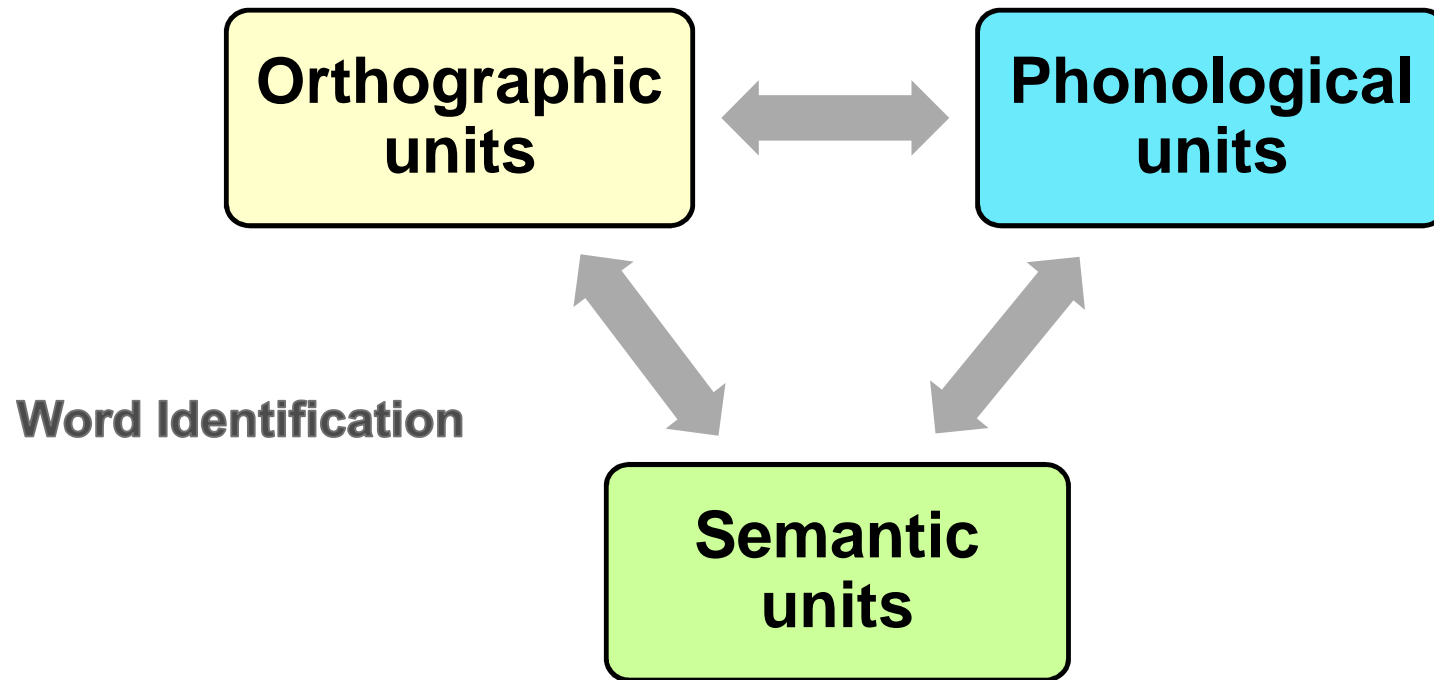
Our current research

- **Can we improve reading skills with an intensive treatment on word identification?**
- **For DHH adolescents of 12 to 15 years old?**

Word identification in DHH readers

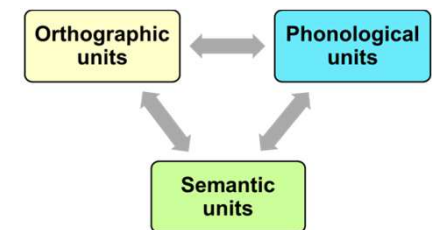


Different routes?



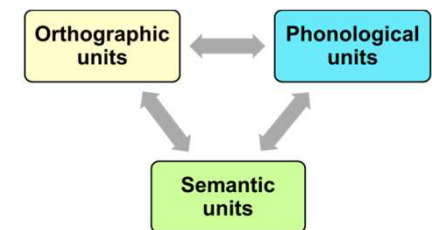
Orthographic units

- **DHH adult readers use orthographic information more efficiently than hearing readers (Bélanger et al. 2014)**
- **Research on orthographic knowledge in DHH children inconclusive (Apel & Masterson 2015, Kyle & Harris 2011, Luft 2018)**



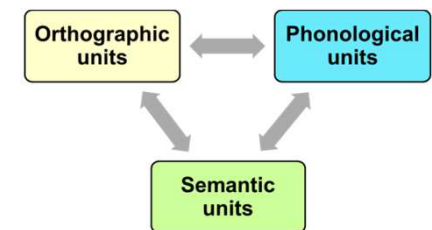
Phonological units

- **Phonological awareness is a predictor of reading**
(Moreno-Pérez et al. 2015, Herman et al. 2018)
- **The correlation between phonological awareness and reading seems to be related to language modality**
(Lederberg et al. 2019, Herman et al. 2018)



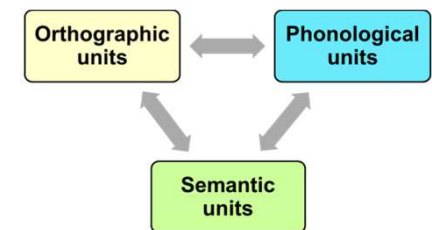
Phonological units

- **Use of spoken language is not a guarantee for phonological awareness (Apel & Masterson, 2015; Harris et al. 2017)**



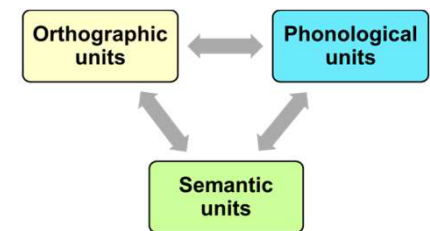
Semantic units

- **DHH children have a lower vocabulary than hearing peers (Harris et al. 2017; Herman et al. 2017)**
- **Also children with CI's (Harris et al. 2017; Lund 2015, 2019)**



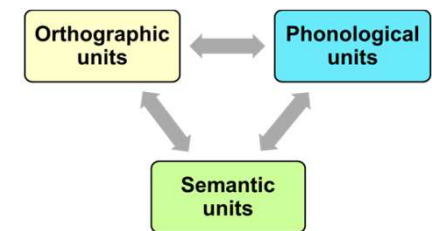
Semantic units

- **Vocabulary correlates with reading for DHH readers**
(Lund 2015, 2019; Hirshorn et al. 2015 and more)
- **Vocabulary is the most important predictor for reading for DHH readers**
(Harris et al. 2017; Herman et al. 2018; Moreno-Perez et al. 2015 and more)

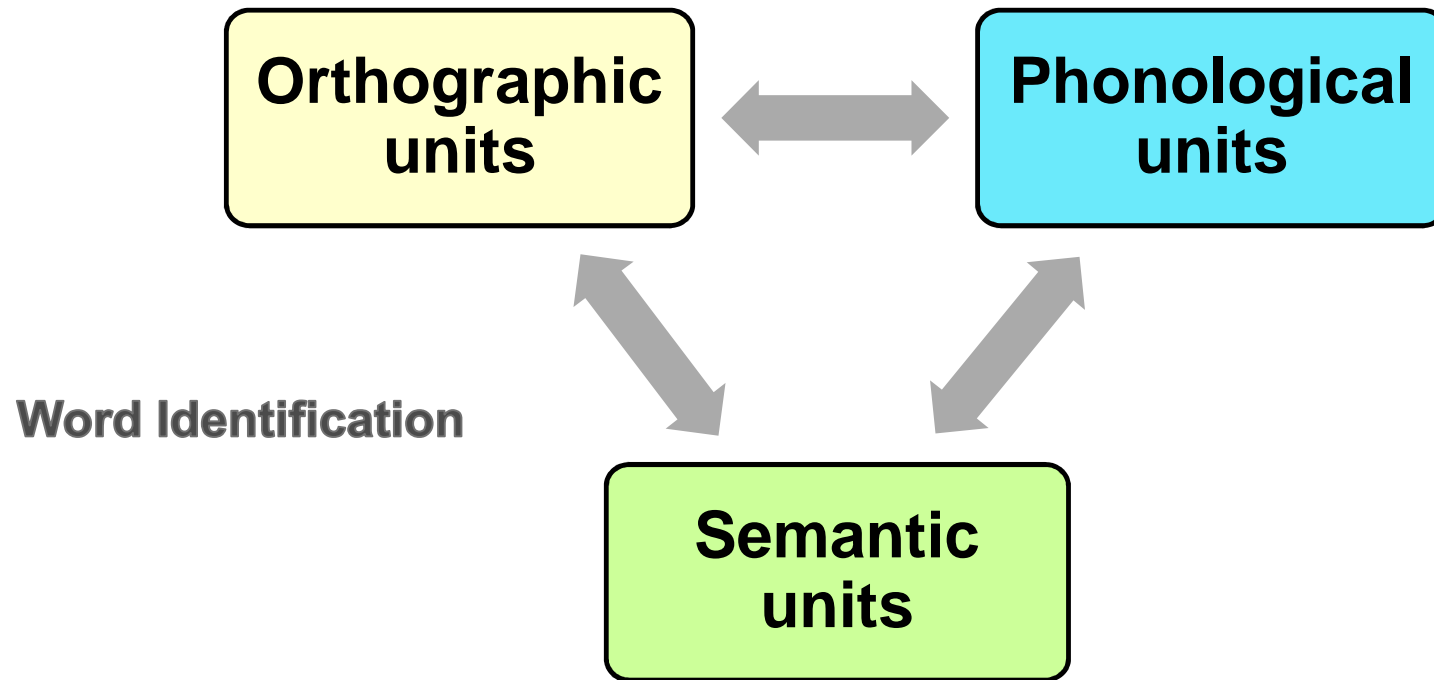


Semantic units

- **Deaf children use morphological knowledge in reading but to a lesser extent than hearing children**
(Van Hoogmoed et al. 2011)
- **Deaf children are delayed in reading morphological complex words as compared to hearing children**
(Van Hoogmoed et al. 2013)



Different routes?



Intervention effects

Intervention effects depend on (among other things):

- **Duration / intensity**
- **Number of participants**
- **Background of the participants**
- **Quality of teacher**

Reading intervention at later age

Feasibility of intervention at later age (Fryer, 2016)

- **Negative correlation age and effect of intervention**
- **High dosage intervention**

Reading comprehension interventions

Review Baye et al. (2019):

- **One-to-one tutoring and cooperative learning leads to positive results**
- **Increasing time of reading lessons in itself does not lead to extra positive results**

Word identification interventions

Torgesen et al. (2007):

- **Little research on word identification training in adolescents: 5 studies**
- **Interventions based on phonics approach, syllable and pattern training, repeated reading**
- **Students with more serious delays benefit the most**

Interventions for DHH readers

- **Few intervention studies for word identification in DHH adolescent readers (Trussell & Rivera 2019)**

Review Peterson (2015):

- **The 13 studies reviewed demonstrated an increase in word identification skills after an intervention**

DHH secondary and college students

Schirmer et al. (2016):

- **Eight DHH participants aged between 13 and 18**
- **Individual intervention in 6 to 7 sessions**
- **2-3 times a week for two months**
- **No effects of repeated reading on fluency, but significant effects on comprehension and vocabulary**

Trussell et al. (2018):

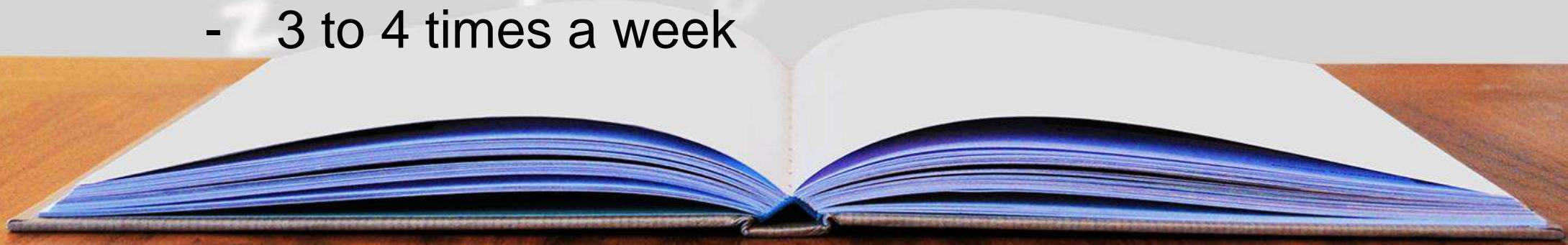
- **Nine college students**
- **Intervention in classroom**
- **20 minutes a day, 2 days a week for 5 weeks**
- **Morphological instruction increased the ability to define taught morphemes**

Interventions for DHH readers

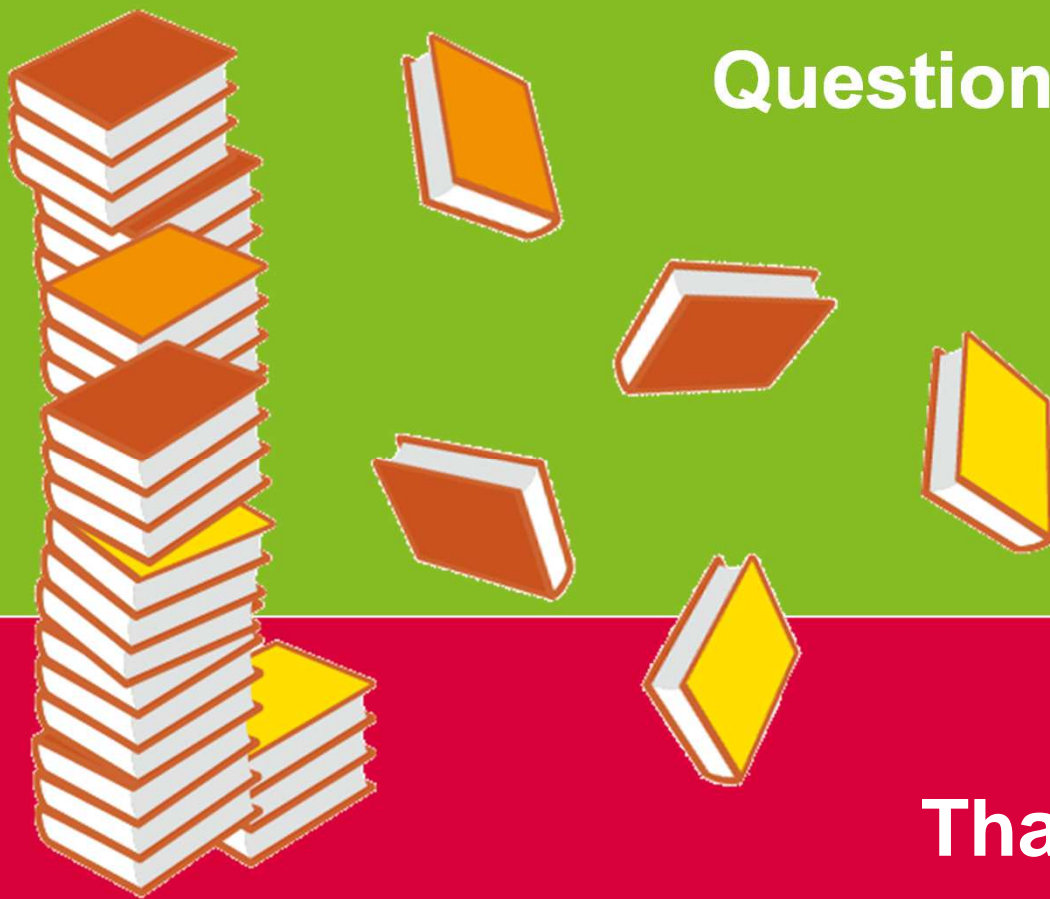
- **Many interventions focus on reading comprehension**
- **Few interventions focus on improving of word identification**

Our study

- **Intervention on word identification**
- **12-15 year old DHH readers in the Netherlands**
- **High dosage:**
 - 4 months
 - 3 to 4 times a week



Questions?



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Thank you for attending!