

# INFERENCES SKILLS DEVELOPMENT IN READING COMPREHENSION OF DEAF CHILDREN. A REVIEW OF INVOLVED VARIABLES

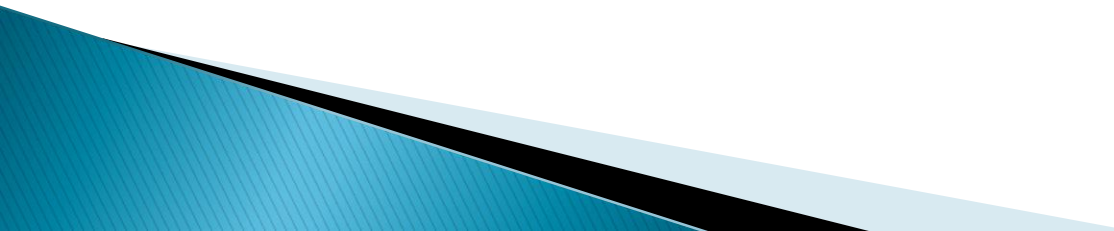
Carrero Barril, Francisco Jesús  
Barajas Esteban, Carmen  
Lineró Zamorano, María José  
Quintana García, Inmaculada  
González Cuenca, Antonia  
Lavigne Cerván, Rocío  
Navarta Pardo, Concepción

Dpto. Psicología Evolutiva y de la Educación  
Universidad de Málaga  
[fjcarrero@uma.es](mailto:fjcarrero@uma.es)

## OBJECTIVE

- ▶ The proposal of the current study is to analyze the relations between lexical comprehension and grammatical comprehension and the ability of deaf children to draw inferences from text reading.

# PARTICIPANTS

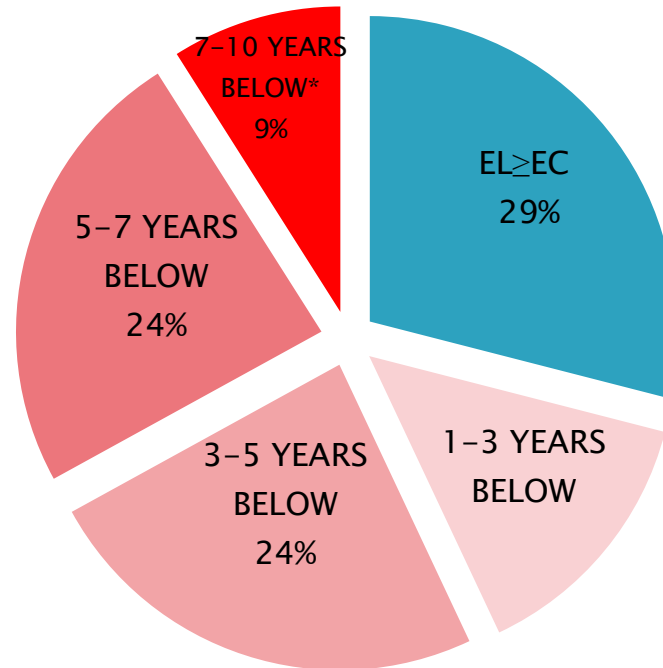
- ▶ 22 deaf students of Primary Education (6–13 years) at ordinary centres.
  - ▶ Hearing-loss: medium (40–70 dB) 14%, severe (71–90 dB) 43% and profound (+91 dB) 43%.
  - ▶ 54% with cochlear implant, 27% digital hearing-aid, 19% analogical hearing-aid. All students have been prothesised before 4 years and six months. 53% before 3 years and 47% between 3 years and three months and 4 years and six months. 72% uses FM system in classroom.
  - ▶ 90% uses oral language as usual way of communication and 10% uses oral language and sign language.
  - ▶ They come from families with low sociocultural level (50%), medium (36,4%) and high (13,6%).
- 

# EVALUATION TESTS

- ▶ **Questionnaire:** information about hearing-loss and family and school environments, coming from parents and school professionals.
- ▶ **Peabody Picture Vocabulary Test (PPVT-III):** level of oral receptive vocabulary by identifying words in a set out of four pictures that corresponds to the target word.
- ▶ **Test of Grammatical Structures Comprehension (CEG):** Spanish adaptation from the Test for Reception of Grammar (TROG, Bishop, 1983), assesses level of oral receptive comprehension of simple and complex grammatical structures by having participant identify sentences and then point to the drawing from a set out of four that corresponds to the target sentence.
- ▶ **PROLEC-R:** Subtest of Texts Comprehension from *Batería de evaluación de Procesos Lectores-Revisada* (PROLEC-R) (Reading Processes Evaluation Battery-Revised), for students from 1º to 6º from Primary School. The test consists of reading two narrative texts and two expository texts (each one can subdivide in two short texts and two long texts) and answering questions about the content of texts, making inferences to do it right.

# PPVT-III (PEABODY)

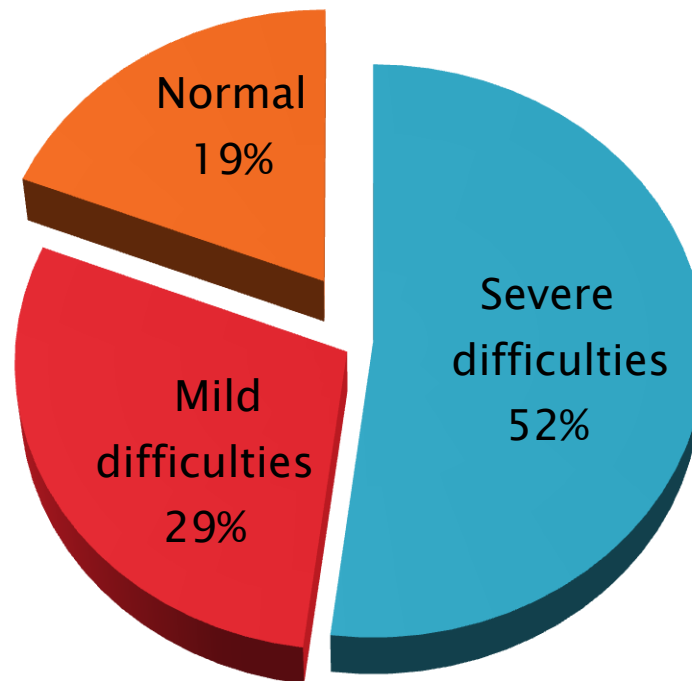
## CRONOLOGICAL AGE (C.A) AND RECEPTIVE VOCABULARY AGE COMPARATIVE



\* BELOW CRONOLOGICAL AGE

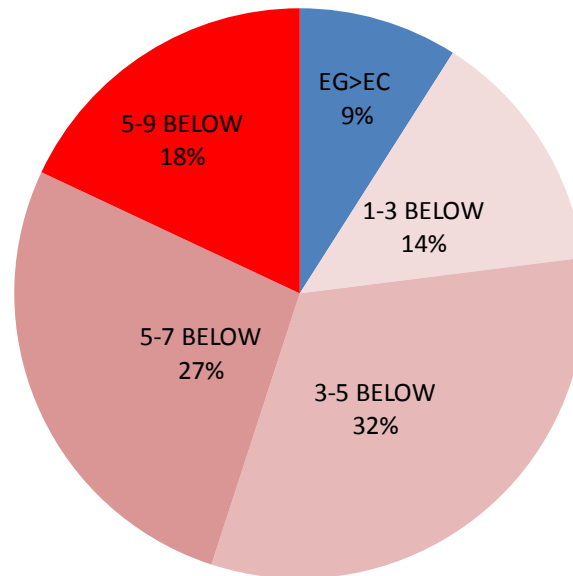
# PROLEC-R

NORMAL-DIFFICULTIES (SCALED)

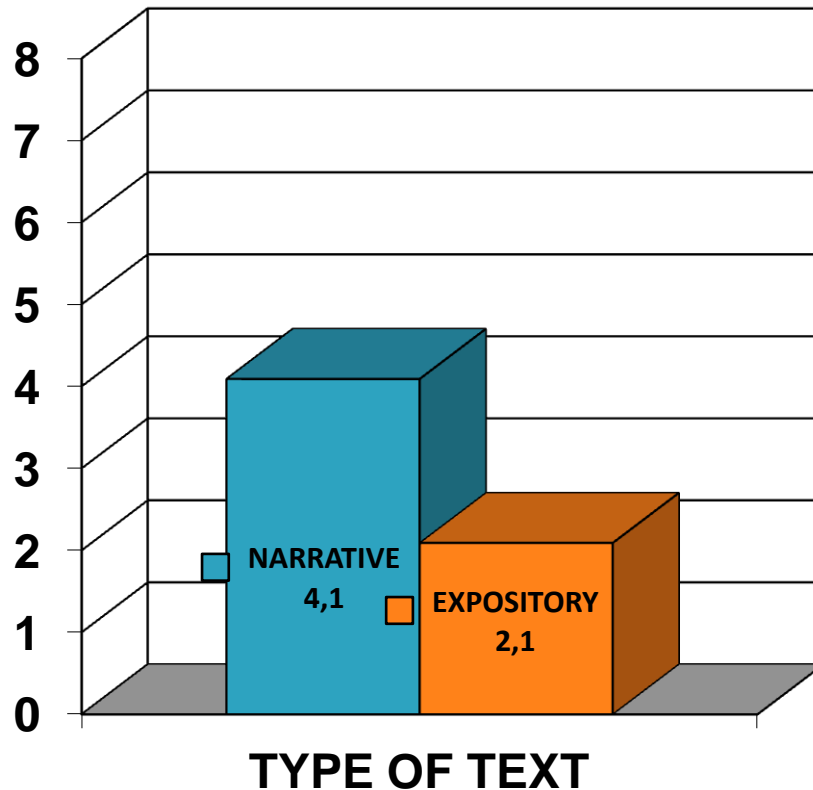


# CEG

## CRONOLOGICAL AGE AND GRAMMATICAL COMPREHENSION AGE COMPARATIVE

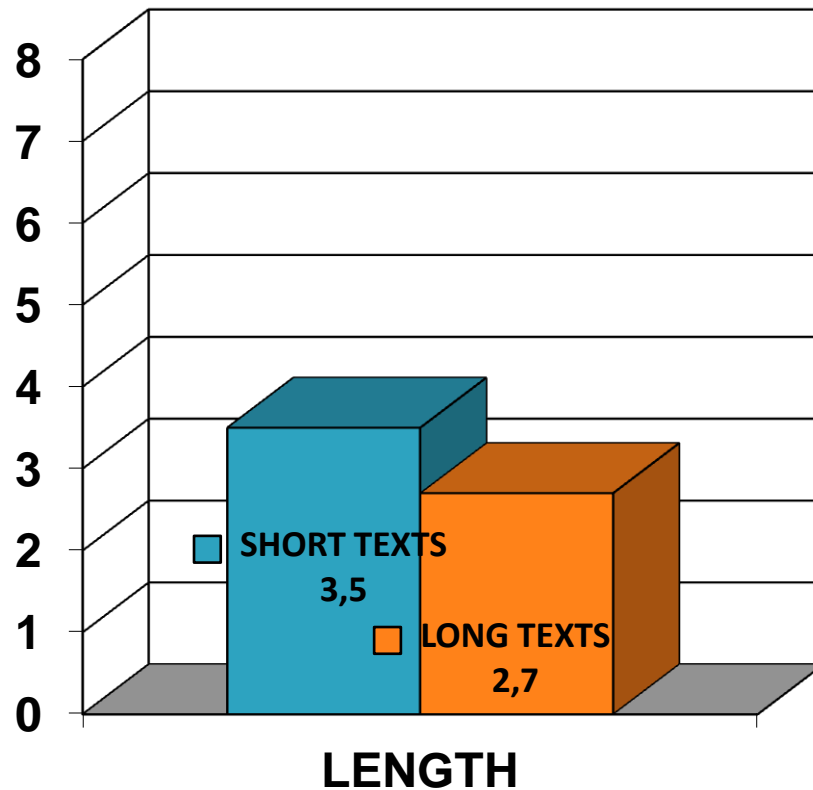


# Mean scores: Narrative vs expository texts (0–8)





# Mean scores: Short and long texts (0–8)



VOCABULARY  
COMPREHENSION AGE

Corrected R-squared: 0.370  
Sig.: 0.002

Global Model.  
Corrected R-squared: 0.544  
Sig.: 0.000

TEXT  
COMPREHENSION

GRAMMATICAL  
COMPREHENSION AGE

Corrected R-squared: 0.567  
Sig.: 0.000

VOCABULARY  
COMPREHENSION AGE

Pearson: 0,482  
Sig.: 0.048

Global Model.  
Corrected R-squared: 0.365  
Sig.: 0.017

NARRATIVE TEXT  
COMPREHENSION

GRAMMATICAL  
COMPREHENSION AGE

Pearson: 0.647  
Sig.: 0.008

VOCABULARY  
COMPREHENSION AGE

Pearson: 0,506  
Sig.: 0.039


Global Model.  
Corrected R-squared: 0.530  
Sig.: 0.003

EXPOSITORY TEXT  
COMPREHENSION

GRAMMATICAL  
COMPREHENSION AGE

Pearson: 0,755  
Sig.: 0.001

# CONCLUSIONS

- ▶ It was founded that deaf children were in a higher proportion close to their cronological age (in equivalent ages) in receptive vocabulary competence than in receptive grammatical abilities.
  - ▶ The proportion of deaf students that were significantly delayed was higher in grammatical comprehension tests than in pasive vocabulary tests, when we used measures of oral comprehension.
  - ▶ A very few percentage of deaf children reached a text comprehension level equivalent to the academic level.
  - ▶ The text comprehension difficulties were signifcantly higher in reading expository texts than in narrative texts.
  - ▶ The performance in probes which evaluate reading comprehension did not depend on the length of text, so we can conclude that comprehension problems are not related to their working memory limitations.
  - ▶ The lexical and grammatical comprehension (analyzed together) are good predictors of texts comprehension. The size of effect is higher in expository texts than in narrative texts.
  - ▶ The grammatical comprehension competence is a better predictor of reading comprehension abilities than receptive vocabulary competence, in order to make inferences from written language, especially in expository texts.
- 

# REFERENCES

- ▶ Cain, K (2010). Reading development and difficulties. Chichester, U.K. BPS Blackwell.
  - ▶ Cuetos, F., Rodríguez, B. & Ruano, E. (2007). *PROLEC-R, Batería de Evaluación de los Procesos Lectores Revisada*. Madrid: TEA Ediciones.
  - ▶ Dunn, Ll.M.; Dunn, L.M. & Arribas, D. (2006). PPVT-III (Peabody). *Test de vocabulario en imágenes*. Madrid: TEA Ediciones.
  - ▶ Mendoza, E.; Carballo, G.; Muñoz, J. & Fresneda, M.D. (2005). CEG. *Test de Comprensión de Estructuras Gramaticales*. Madrid: TEA Ediciones.
- 