

**‘Specialization in ICTs and Special Education: Psychopedagogy of Integration’
Postgraduate Program
DEMOCRITUS UNIVERSITY OF THRACE Department of Greek Philology
in collaboration with
NCSR DEMOKRITOS Informatics and Telecommunications Institute**

**DESIGN AND IMPLEMENTATION OF EDUCATIONAL SOFTWARE FOR
PHONOLOGICAL AWARENESS IN CHILDRESS WITH SPECIAL LEARNING
DIFFICULTIES**

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Abstract

Nowadays there is a constant talk of new technologies. The computer is this technology, which has the most direct, easy and fast access. This thesis is divided into two parts.

The first part provides a bibliographic overview of contemporary issues related to phonological awareness. This raises a variety of issues such as what is reading and how it relates to phonological awareness. Also it suggested some activities for teaching phonological awareness. This part concludes with a bibliographical review of dyslexia and its association with phonological awareness.

The second part describes the phonological education software and the exercises (thirteen in total) designed by the researcher, based on modern theoretical concepts. It also describes the research as well as the intervention stage through the educational software.

The purpose of the research was twofold: an attempt was made to evaluate the use of software as a result of the teaching that was done, and secondly to find the strong and weak elements of the educational material in order to finalize such corrections.

According to the results of the research process, the software was successful in proportion to the goals set by the teacher. Through it all the points that needed further differentiation were revealed.

References

- Balota, D. (1990). The role of meaning in word recognition. Στο *In D.A.Balota, G.B.Flores*
- d'Arcais, & K.Rayner (Eds.)* (σσ. 9–32). Hillsdale, NJ: Lawrence Erlbaum Associates Inc.
- Bradley, L., & Bryant, P. (1983). Categorising sounds and learning to read – a causal connection. *Nature*, 419-521.
- Castles, A., Datta, H., Gayan, J., & Olson, R. (1999). Varieties of developmental reading disorder: Genetic and environmental influences. *J Exp Child Psychol*, 73–94.
- Clark, H., & Clark, E. (1977). *Psychology and language: An introduction to psycholinguistics*. New York: Harcourt Brace Jovanovich.
- Clay, M. (1991). *The early detection of reading difficulties*. Auckland-New Zealand.
- Clay, M. (1998). *By different paths to common outcomes*. York, Maine: Stenhouse Publishers.
- DeLamater, W. (2010). *How Larger Font Size Impacts Reading and the Implications for Educational Use of Digital Text Readers*. Ανάκτηση από eReadia:
http://www.ereadia.com/research/How_Larger_Font_Size_Affects_Reading.pdf
- Draffan, E. (2002). Dyslexia and technology. Στο *Access All Areas: disability, technology and learning*.
- Drigas, A., Kokkalia, G., & Lytras, M. (2015). ICT and collaborative co-learning in preschool children who face memory difficulties. *Computers in Human Behavior*, 645–651.
- Eimas, P., Miller, J., & Jusczyk, P. (1987). On infant speech perception and the acquisition of language. Στο *S.Harnad (Ed.), Categorical perception* (σσ. 161–195). New York: Cambridge University Press.
- Elkonin, D. (1973). *U. S. S. R. in J. Downing (Ed.)*. New York: Macmillian.
- Farquharson, K., Centanni, T., Franzluebbbers, C., & Hogan, T. (2014). Phonological and lexical influences on phonological awareness in children with specific language impairment and dyslexia. *Frontiers in Psychology*, 1-10.
- Gayan, J., Smith, S., & Cherny, S. (1999). Quantitative-trait locus for specific language and reading deficits on chromosome 6p. *Am J Hum Genet*, 157–164.
- Gerken, L. (1994). Child phonology: Past research, present questions, future direction. Στο *In M.A.Gernsbacher (Ed.), Handbook of psycholinguistics* (σσ. 781–820). San Diego: Academic Press.

Gerrig, R. (1986). Processes and products of lexical access. *Language and Cognitive Processes*, 187–196.

Hallahan, D., & Mercer, C. (2001). *Learning Disabilities: Historical Perspectives. Executive*

Summary. Ανάκτηση June 25, 2019, από Special Education Programs (ED/OSERS), Washington, DC.: <https://files.eric.ed.gov/fulltext/ED458756.pdf>

Hammill, D. (1990). On defining learning disabilities: An emerging consensus. *Journal of Learning Disabilities*, 74 – 84.

Ismaili, J., & Ibrahim, E. (2016). Mobile learning as alternative to assistive technology devices for special needs students. *Education and Information Technologies*, 1–17.

Jakobson, R. (1968). *Child language, aphasia and phonological universals*. The Hague: Mouton.

Johnson, R., & Hegarty, J. (2003). Websites as educational motivators for adults with learning disability. *British Journal of Educational Technology*, 479–486.

Johnson-Laird, P. (1975). Meaning and the mental lexicon. Στο A.Kennedy & A.Wilkes (Eds.) *Studies in long-term memory* (σσ. 123–142). London: John Wiley.

Katzir, T., Hershko, S., & Halamish, V. (2013). The Effect of Font Size on Reading Comprehension on Second and Fifth Grade Children: Bigger Is Not Always Better. *PLoS ONE*.

Kiparsky, P., & Menn, L. (1977). On the acquisition of phonology. Στο In J.Macnamara (Ed.), *Language learning and thought* (σσ. 47–78). New York: Academic Press.

Kirk, & Samuel, A. (1987). Intervention research in learning disabilities. Στο S. & Vaughn, *Research in learning disabilities: Issues and future* (σσ. 173-183). London: Taylor & Francis Ltd.

Madeira, J., Silva, C., Marcelino, L., & Ferreira, P. (2015). Assistive mobile applications for dyslexia. *Procedia Computer Science*, 417–424.

Mowrer, O. (1960). *Learning theory and symbolic processes*. New York: John Wiley & Sons.

Nelson, K. (1973). Structure and strategy in learning to talk. *Monographs of the Society for Research in Child Development*.

Oller, D. (1980). The emergence of sounds of speech in infancy. Στο G.H. Yeni-Komshian, J.F.

Kavanagh, & C.A. Ferguson (Eds.) (σσ. 93–112). New York: Academic Press.

Pennington, B. (1999). Toward an integrated understanding of dyslexia: Genetic, neurological and cognitive mechanisms. *Dev Psychopathol*, 629–654.

Quinn, P., & Eimas, P. (1986). On categorization in early infancy. *Merrill-Palmer Quarterly*, 331–363.

Regehr, S., & Kaplan, B. (1988). Reading disability with motor problems may be an inherited subtype. *Pediatrics*, 204–210.

Rello, L., Kanvinde, G., & Baeza-Yates, R. (2012). A mobile application for displaying more accessible eBooks for people with dyslexia. *Procedia Computer Science*, 226–233.

Saffran, J., Aslin, R., & Newport, E. (1996). Statistical learning by 8-month-old infants. *Science*, 1926–1928.

Sattler, S. (1998). *Assesment of children (3rd ed.)*. San Diego, C.A.: Jerome Sattler. New York.

Skiada, R., Soroniat, E., Gardel, A., & Zissis, D. (2014). EasyLexia: A Mobile Application for Children with Learning Difficulties. *Procedia Computer Science*, 218 – 228.

Smith, E. (1988). Concepts and thought. Στο *In R.J. Sternberg (Ed.), The psychology of human thought* (σσ. 19–49). Cambridge: Cambridge University Press.

Spenger-Charolles, L. (1991). L'acquisition de la lecture: conscience phonologique etmecanismes d'identification des mots (perspective cognitive). *Les Entretiens Nathan:Lecture (Actes 1)*,111-133.

Warrick, N., Rubin, H., & Rowe-Walsh, S. (1993). Phoneme awareness in language-delayed children: comparative studies and intervention. *Annals of Dyslexia*.

Yopp, H. (1988). The validity and reliability of phonemic awareness tests. *Reading Research Quartely* , 159-177.

Zikl, P., Bartošova, I., Viškova, K., Havličkova, K., Kučirkova, A., Navratilova, J., & Zetkova, B.

(2015). The possibilities of ICT use for compensation of difficulties with reading in pupils with dyslexia. *Procedia - Social and Behavioral Sciences*, 915–922.

Γαβριηλίδου, Ζ. (2003). *Φωνητική συνειδητοποίηση και διόρθωση παιδιών προσχολικής και πρώτης σχολικής ηλικίας*. Αθήνα: Τυπωθήτω - Γιώργος Δάρδανος.

Ευθυμίου, Α., Δήμος, Η., Μητσιάκη, Μ., & Αντύπα, Ι. (2009). «*Το Πρώτο μου Λεξικό*» -*Εικονογραφημένο Λεξικό Α', Β', Γ' Δημοτικού*. Αθήνα: Οργανισμός Εκδόσεως Διδακτικών Βιβλίων.

Θωμαΐδου, Λ. (1999). Δυσλεξία: Μύθος και Πραγματικότητα. Στο *Εργοθεραπεία-Σ.Ε.Ε., Τευχ. 12*.

Καβαλιώτης, Α. (2010). *Δυσλεξία και Εκπαίδευση : Προσεγγίσεις και τεχνικές αντιμετώπισης*.

Κανάκης, Ι. (2009). Οι σκοποί της διδασκαλίας σε μια ανοικτή κοινωνία και οι εναλλακτικές μορφές μάθησης. *2ο Διεθνές Συνέδριο. Η παιδεία στην αυγή του 21ου αιώνα – Θέματα Συγκριτικής Παιδαγωγικής*.

Κασσωτάκη, Α. (2013). *Συλλαβική Επίγνωση*. Αθήνα: ikid.

Κωτούλας, Β. (2008). *Διδακτικές προσεγγίσεις και πρακτικές για μαθητές με Μαθησιακές Δυσκολίες*. Βόλος.

Λιβανίου, Ε. (2004). *Μαθησιακές δυσκολίες και προβλήματα συμπεριφοράς στην κανονική τάξη*. Αθήνα: Κέδρος.

Μαυρομμάτη, Δ. (2004). *Δυσλεξία- Η Φύση του Προβλήματος και Αντιμετώπιση*. Ελληνικά Γράμματα.

Οκαλίδου, Α., Σίμος, Π., Βογινδρούκας, Ι., Νικολόπουλος, Δ., Νικολόπουλος, Θ., Μαρίνης, Θ., . . . Πρωτόπαπας, Α. (2016). *Γλωσσική Ανάπτυξη και Διαταραχές*. Εκδόσεις Τόπος.

Παντελιάδου, Σ. (2000). *Μαθησιακές δυσκολίες και εκπαιδευτική πράξη: Τι και γιατί;*. Αθήνα: Εκδόσεις Ελληνικά Γράμματα.

Παντελιάδου, Σ. (2009). *Μαθησιακές Δυσκολίες και Εκπαιδευτική Πράξη. Τι & Γιατί. 10η έκδοση*. Αθήνα: Ελληνικά Γράμματα.

Πόρποδας, Κ. (2002). *Η ανάγνωση*. Πάτρα: Αυτοέκδοση.

Στασινός, Δ. (1999). *Δυσλεξία και σχολείο: Η εμπειρία ενός αιώνα*. Αθήνα: Gutenberg.

Τάφα, Ε. (2011). *Ανάγνωση και γραφή στην προσχολική εκπαίδευση*. Αθήνα: Πεδίο.

Τζιβνίκου, Σ. (2015). *Μαθησιακές δυσκολίες - διδακτικές παρεμβάσεις*. Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών.

Το πιο ωραίο σχολείο είναι το Νηπιαγωγείο. (2015, Ιανουάριος 25). Ανάκτηση από

topiooraiosxoleioeinaitonipiagvgeio:

<http://topiooraiosxoleioeinaitonipiagvgeio.blogspot.com/>

Φλωράτου, Μ. Μ. (2009). *Μαθησιακές Δυσκολίες και όχι Τεμπελιά*. Αθήνα: Οδυσσέας.