

Summary of the Ph.D. Thesis

Name of the author of the thesis: Maja Zielińska

Academic title of the doctoral supervisor of the thesis: dr hab. Ewa M. Kulesza, prof. APS

Name of the auxiliary promoter: dr Iwona Konieczna

The title of the thesis: Graphomotor efficiency and neuromotor maturity of first grade pupils of primary school.

Key words phrases: readiness to write, graphomotor efficiency, neuromotor maturity, primitive reflexes

Abstract:

The latest research of Polish schoolchildren at the early school age reveals that the state of their handwriting is highly unsatisfactory (Zadęcka-Cekiera, 2017; Domagała, Mirecka, 2018b). Therefore, in this dissertation, the issue of the basic school technique - writing - is at the center of consideration. The literature search shows that the authors focus mainly on the graphic side of the handwriting and analyze in particular one of the important aspects of mastering writing skills, namely, graphomotor skills, the development of which depends largely on manual skills, visual perception and eye-hand coordination (Domagała, Mirecka, 2018a). In recent years, there have been interesting reports on neuromotor maturity in the context of school learning, including learning to write (Grzywniak, 2015; Goddard Bythe, 2020). However, knowledge about the neuromotor maturity of Polish pupils is still incomplete. This inspired the author of the dissertation to undertake a search in the field of determinants of mastering the learning of writing by children starting school education.

The aim of the research was to identify and describe the relationship between graphomotor efficiency and neuromotor maturity of first-grade pupils, and to develop conclusions for teaching practice. The research covered 120 students (65 girls and 55 boys) of the first grade of primary school. Methods of observation, estimation, school achievement tests and document analysis were used (Łobocki, 2006). The Graphomotor Skill Assessment Scale (SOSG) questionnaire by Urszula Mirecka and Aneta Domagała (2018) was used to determine the state of graphomotor efficiency of children. Neuromotor maturity was determined using the Developmental Screening Test for Children Aged 4-7 by Sally Goddard Blythe (2015).

The research showed an unsatisfactory level of graphomotor skills in more than two-thirds of first-grade pupils. A strong relationship was revealed between graphomotor efficiency and neuromotor maturity. Children who achieved low results in the area of graphomotor efficiency at the same time showed clear dysfunctions in the neuromotor area, e.g. disorders of body coordination and balance, inability to cross the midline of the body, postural instability, uninhibited primary reflexes, i.e. asymmetric tonic neck reflex (ATOS), symmetrical tonic neck reflex (STOS) and tonic labyrinth reflex (TOB). On the other hand, first-graders achieving a high or average level of graphomotor skills revealed a higher level of neuromotor maturity than their peers with significant graphomotor problems. Differences were also observed between boys and girls in achieving graphomotor efficiency and neuromotor maturity in favor of girls.

It can be concluded that neuromotor maturity has a significant impact on students' mastery of writing skills. Therefore, there is a need to promote knowledge among teachers about the impact of neuromotor maturity on school learning and the need for them to take preventive measures and support the development of graphomotor skills of children at the beginning of school education.