

DEVELOPMENT OF GRAPHOMOTORICS AND CORRECTION OF GRAPHOMOTOR DIFFICULTIES IN PRIMARY SCHOOL PUPILS

Petra Jedlickova – Anna Sleziakova

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Abstract

The present study deals with the search for connections between writing disorders and graphomotor skills, as well as with the development of graphomotor difficulties in children with dysgraphia and the secondary development of attention. The authors of the study present the results of qualitative research aimed at monitoring changes in the field of graphomotor skills in children who participated in the program “Method of Good Start”. The examined sample consisted of 3 respondents who were diagnosed with a writing disorder. By implementing this method, there was not only the development of motor and graphomotor skills but also improved attention in selected children. Concerning individuals with a diagnosed attention disorder, we talk about both impaired attention in all its components and a weakened level of motor skills. The authors of the study thus describe the Method of Good Start and point out the possibility of using it for the development or intervention of pupils with ADHD/ADD. Consequently, the study focuses on constructive criticism of the Method of Good Start from the point of view of motivation, which is a strong activation factor for individuals with ADHD, and thus would correspond to the current interests of elementary-aged children.

Key words

graphomotorics, Method of Good Start ADHD, attention disorder, dysgraphia, fine motor skills, graphomotor programs

Introduction

“To cultivate the gift of drawing, we must create an eye that sees, a hand that obeys, a soul that can feel.” (Maria Montessori)

We think that the quote from one of the world’s historically most famous and respected pedagogues, Maria Montessori, unequivocally speaks of the activity of writing/drawing as an ability that requires a certain thorough stimulus, refinement and involvement of all areas of perception (tactile sense, sight, kinesthetics of the body, mutual connectedness and perception). Therefore, we consider motor skills in all the areas mentioned in this study to be essential for the future quality of the field of graphomotorics as they constitute its basis.

(Grapho)motorics

The term “graphomotorics” has its origin in Greek, but also in Latin (Greek word *grapho* – “written, writing”; Latin word *motus* – “movement”). It is a

set of elements of kinetics which participates in the graphic activity of a person. More specifically, it is a comprehensive set of psychomotor activities, and mechanisms in graphomotor activities (painting, drawing, tracing, sketching, writing etc.). Weakening of graphomotor skills can also occur as a result of a poorly stimulating environment (exogenous/endogenous) and insufficient graphomotor opportunities for the child (Mlcakova, 2009; Dolezalova, 2010; Zelinkova, 2017).

Motorics (lat. *motus*) is related to the child's daily physical activity. We relate to his/her coordination (movement) abilities, self-care skills, socialization and communication. Furthermore, it has a large effect on the selection of the future profession as well as on the performance in the job. These words are also confirmed by Kastelova (2014), who claims that these abilities are largely relevant factors in professional performance. When it comes to motor skills, they represent a comprehensive ability to move, in which the entire central nervous system participates.

Motor skills in the writing process require multiple involvements of the pupil's muscles. Their overexertion caused by excessive load causes exhaustion. Therefore, it is important not only to hold the pen itself but also to the position of the 2D surface on the writing board, the correct uprightiness of the body and the position of the upper and lower limbs. Short relaxation by means of exercises during the process of writing, reading and education can be very beneficial and relaxing for the pupil. Zelinkova (2015) considers short-term corrections - practice, rather than the exact opposite - i.e., lengthy exercises, to be more positive.

Movement (involvement of muscle, joint and nerve functions) stimulates the production of endorphins, i.e., joy - especially in children. We see a certain kind of movement and joy. Through gradual development, motor skills (gross and fine) are improved. This is also manifested in 2D space (space on a paper surface) in a conscious stop, change of direction, and shorter/longer lines. We are no longer talking about spontaneous but deliberate, i.e., conscious graphic movement. Subsequent manifestations and functions of fine motor skills should reach the stage of hand-and-eye coordination. In such a range of visuomotor coordination, it is possible to manage miniature and thorough movements (Končekova in Bednarcikova et al., 2010; Matthews in Lehotayova & Valachova, 2014).

Method of Good Start (MGS)

Like any other method, the Method of Good Start (MGS) has undergone development, certain progress of implementation etc. The authors Stanova (2020) and Zelinkova (2012) describe that the MGS, in its early days, was established in France under the specific name "Bon depart", which means "good start" in Slovak translation. They state that we date its creation since 1941 in Cannes, and after ten years, it developed in Paris (1959). MDGS was specifically created by the Dutch author Thea Bugnet (Mlcakova, 2009; Jaskiewicz, 2020).

The claims of the authors are also confirmed by older literary sources. MGS dates back to the last century, during the First World War. From the point of view of physiotherapy, it should have a rehabilitative effect on individuals. It

especially helped with their coordination difficulties. So, it was used mainly as a method aimed at rehabilitating patients. The original author of this method was Thea Bugnet, a physiotherapist. She presented a given methodology in its early days (the 40s and 50s of the 19th century) for the first time at a French elementary school in Cannes as the “Bon Depart Method”. After its correction, it was primarily used for work in the field of literacy. Currently, we register its use not only in the aforementioned France, but also in the Benelux countries, Portugal, Poland, the Czech Republic and Spain. Subsequently, the given method underwent transformational changes that were able to adapt to individuals with developmental learning disorders. When creating a method, teamwork of several scientific disciplines is necessary. Specifically, educators and also musicians are involved, as graphic models are accompanied by musical accompaniment. Concerning Central Europe, the method was introduced in the capital of Poland, Warsaw, in 1969. Its presentation took place at the seminar (Lessons in Psychotherapy of Children and Youth) under the auspices of the Polish Society of Psychological Hygiene in Warsaw and was given by Bogdanowicz, Loebel and Jaklewicz (Bogdanowicz & Swierkoszova, 1998; Mlcakova, 2009, Hatalova, 2013; Jaskiewicz, 2020).

Stanova was responsible for the greatest boom in the implementation of the Method of Good Start in Slovakia. We consider it very important to point out that the author of the MGS in Slovakia shares the opinion of other scientists, who state that this method has both preventive orientation and therapeutic effectiveness. It is a helpful tool for individuals who have specific difficulties, disorders, manifestations, diagnoses etc. More specifically, we are talking about individuals with a delayed start to schooling, pupils with specific learning disorders, pupils of special elementary schools, or individuals from a poor social environment (minority groups, immigrants etc.) (Stanova, 2020; Bogdanowicz & Swierkoszova, 1998).

Each lesson of this method is accompanied by songs - folk songs that were recorded exclusively for this purpose. As we learn from other sources about the primary focus of the MGS on the development of motor skills (gross and fine), we know that it is involved in the individual's acquisition of graphic ways of writing behavior, in the improvement of lateralization, the correct grip of the writing utensil, and in the correct posture/sitting during the writing process. Furthermore, it supports adequate pen pressure and harmonious connection of eye movement during the writing process. In addition, this method also develops perceptual areas (Stanova, 2020; Zelinkova, 2010).

In terms of auditory differentiation and memory, the aforementioned music is a developing factor for an individual. Moreover, the MGS contributes to the development of spatial and temporal orientation, body motility, intermodality, seriality, visual differentiation/memory, as well as the perception of tactile receptors (tactile-kinesthetic perception). We consider as key during all lessons the overall balance of the psyche, the harmony of physical strengths and the joy of the activity, which ultimately gives the pupil the impression of play (Stanova, 2020; Jaskiewicz, 2020).

MGS accompanies exactly 25 folk songs and graphs (representing certain movements), which shape fits into the overall harmony of the song. Rhythm

is an important element that plays a significant role in the learning of basic trivium, which is also pointed out by Kollarova (2017: 18): *“if pupils find the sound matches of rhyming pairs through their own expressive creation, it brings them positive emotions (joy of success). In many cases, these emotions are stronger if this process is accompanied by movement (one movement – clapping, or if the rhyming segment is longer, a set of movements according to syllables – clapping, stamping, turning etc.). In accordance with the theory of neurodidactics, this is a demanding movement when the pupil connects several brain structures (perception, attention, thinking, speech in cooperation with oromotorics, gross motor skills and spatial orientation), which therefore affects the spatial or/and long-term memory”*.

Each song corresponds to one methodological lesson, that is, to a graphic model/graph. The methodology offers exactly 25 such graphic models. One entire methodological lesson is related to a particular graphic model. This means exactly 25 individual lessons. During the implementation, it is adequate to be accompanied by two experts of the given methodology. As part of the work, which is supposed to prevent possible difficulties, we give space to several pupils (fifteen to twenty). If we carry out re-education with the pupils of disorders/difficulties that have already arisen, it is carried out with a smaller number of participants (six to eight). It is ideal if the lessons take place at least one day a week, from September to the end of June - that is, in the scope of one school year. If it happens that the pupil did not master the given graphic model of the song during the lesson, he/she did not show the ability to master this graphic model. Therefore, it is necessary to repeat the given model in the following lesson. If the same situation of not acquiring the ability to accept a graphic model happens a second time, we will not repeat the lesson next time (Stanova, 2020; Jucovicova & Zackova, 2014, Zelinkova, 2010; Zelinkova in Jironcova, 2018).

Stanova (2020), as well as Jucovicova and Zackova (2014), state that the given lessons develop pupils' verbalization abilities and skills, but also their posturing, gestures and facial expressions (non verbalization). Furthermore, the MGS is responsible for the gradual improvement in rhythmicity, melody, dramatization, empathizing with a certain role etc.

We think that this method generally affects not only the aspects of graphomotor skills and beneficial education of the pupil but also subtly develops in pupils a feeling for the traditionalism of the song, a positive approach to the art, which leads to the overall harmonization of the individual. This can positively influence the future life experiences and direction of the pupil.

Zelinkova (2012) states that during the implementation of the MGS lesson, the regularity of repeating the music in the given periods is essential. She also points to the importance of alternating more temperament and relaxing activities during the process of implementing the method. In this way, we indirectly improve the quality of the pupil's attention.

The primary objective of this method is to support the child in the field of psychomotor development thanks to the active involvement of several senses participating in the active learning of individual graphic symbols. They represent patterns similar to letters, numbers, and symbols. Furthermore, the

method indirectly implements the development of partial functions of children. Among the secondary objectives of the MGS, we include the formation and development of the pupil's laterality (Sleziakova, 2022).

Methodology of Research

The main objective of the research was to verify the effectiveness of the Method of Good Start through its implementation on a selected group of individuals who were diagnosed with dysgraphia and dysorthography.

The following were the partial objectives of the research work:

- To find out how effective the MGS is in improving graphomotor difficulties in the field of writing.
- To find out in which areas the MGS is helpful in addition to the writing process.
- To find out to what extent and how the implementation of the method affects the pupil's writing ability.
- To find out the causes of graphomotor difficulties in monitored children by means of selected diagnostic tests.
- To find out how the graphic expression of all research participants improved after the implementation of the MGS.
- To find out whether the given method is also suitable for pupils with diagnosed learning disorders.

Concerning research methodology, in addition to the Method of Good Start, methods such as content analysis, unstructured observation, diagnostic test method, and diagnostics of examination and activity product analysis methods were used.

The research sample consisted of three respondents. They were boys aged 8 and 10. All pupils were diagnosed with developmental learning disorders affecting the graphomotor component of written expression. In the framework of the research work, a deeper characteristic - analysis of the research participants was carried out.

The research was carried out in three phases. In the first phase (lesson), we focused on the entrance diagnostics (pretest) and verified the pupils using the diagnostic battery T-239 by Novak. From this diagnosis, we selected those diagnostic tools that primarily and secondarily detected graphomotor difficulties in the writing of research participants. Subsequently, in the second phase of the research, the Method of Good Start was carried out. This method was implemented in one lesson a week. In the last phase – the posttest, we repeated the diagnosis of the same diagnostic battery as in the pretest. In this way, we verified the effectiveness of the chosen method with selected pupils.

All areas of the research were carried out in the Private Centre for Special Pedagogical Counselling under the supervision of a special educator and certified coach of the Method of Good Start. We worked with the research participants for half a year, i.e., six months, individually, once a week. Due to the situation at the time, the research was subject to the influencing threat of the Covid-19 pandemic, which caused deterioration in the quality of the

research implementation. It was possible to carry out 13 lessons out of 25 lessons.

Concerning the Method of a Good Start, we worked with the pupils in the following sequence of exercises. As part of the initial motivation, the pupils were familiarized with the graphic model, and then they moved on to the direct implementation of the tasks of the lesson as follows (respecting the exact methodology and recommendations of the creator of the MGS):

1. Warming up the pupil's gross motor skills.
2. Warming up the pupil's fine motor skills.
3. Exercise with rollers (fingers and fist, palm, edge, back).
 4. Work in 2D space: a. working with the shoulder,
 - b. work in the sand - semolina - pupil,
 - c. worksheets,
 - d. working with the shoulder without pre-drawing.
5. Rhythmic exercise (over the body)
6. Repeating the shape on folded paper

Each lesson is analyzed separately, and the authors point out the peculiarities and specifics of each participant in the program. The results show an improvement in fine motor skills and audio-motor coordination (see Table 1). As part of the analysis of the pupils' activity, the development of coordination of sub-areas of attention (visual and auditory) was also observed and detected.

Table 1 Overview of test results

Participant's name	Phase of testing	Subtest T-239 RS of fine motor skills	Subtest T-239 RS of audio-motor coordination
Marek	Pretest	23pts/77%	AC - 24pts/67% PR - 10pts/56% RR - 14pts/78%
	Posttest	27pts/90%	AC - 28pts/78% PR - 12pts/67% RR - 16pts/89%
Matus	Pretest	16b/53%	AC - 28pts/78% PR - 13pts/72% RR - 15pts/83%
	Posttest	20pts/67%	AC - 32pts/89% PR - 15pts/83% RR - 17pts/94%
Lukas	Petest	22pts/70%	AC - 30pts/83% PR - 17pts/94% RR - 13pts/72%
	Posttest	24pts/80%	AC - 32pts/89% PR - 17pts/94% RR - 15pts/83%

Source: Sleziaikova (2022)

Phase of testing, Subtest T-239 RS of fine motor skills; Subtest T-239 RS of audio-motor coordination; RS=raw score; Audiomotor coordination = AC; Perception of rhythm = PR; Rhythm reproduction = RR

Concerning the MGS, it is important to accept the principle of the pupil's individuality as each participant is a different personality with different interests and different musical preferences. So, it is essential that the given conditions for implementing the method are adapted to an individual already during the introductory-motivational part.

Based on the observation, we found out that in relation to the high-quality motivation of pupils, it is necessary to accompany the given graphemes with the current musical trend of children. The song presented a strong and significant motivating factor in the implementation of the Method of Good Start. These statements are also confirmed by the following definition by Petlak (2020: 108): *“Motivation is an activity aimed at arousing interest, an activity aimed at maintaining the attention and activity of the pupil. It acts as the driving force of the pupil's learning, encouraging the pupil to learn etc. In this context, the role of the teacher is most often emphasized, e.g., the use of activating methods, correct assessment of the pupil, taking into account his/her prerequisites etc.”*

Conclusion

The aim of the study was to present the results of the implemented quasi-experiment, which pointed to the Good Start Method as an effective means of developing and improving graphomotor skills. Graphomotorics thus plays an important role in the preschool age as a substantial element in the overall healthy development of the child. Otherwise, the drawing of graphemes may be weakened as well as the subsequent diagnosis of specific learning disorders related to the written expression of individuals of primary school age. To sum up, the present study points to the improvement of the area of attention, but also the importance of the motivational and musical factors in the implementation of the Method of Good Start.

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doc. PhDr. Petra Jedličková, PhD.
Constantine the Philosopher University
Faculty of Pedagogy, Department of Pedagogy
Dražovská cesta 4, 949 74 Nitra
Slovakia
pjedlickova@ukf.sk

Mgr. Anna Sleziaková
Constantine the Philosopher University
Faculty of Pedagogy, Department of Pedagogy
Dražovská cesta 4, 949 74 Nitra
Slovakia
anna.sleziakova@ukf.sk