The Importance of Psychomotricity in Developing of Perceptual-Motor Structures

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Abstract

Psychomotricity has an important role in the development of preschool age children and it is a necessity of the educational process of this age.
This study is part of a wider research project that has as its goal the creation and implementation of a psychomotor development program for preschool aged children.
This study was made on 34 preschool children with ages between 51 – and 72 months ±3 months old. The children were divided into 2 groups (experimental and control group). The hypothesis we started with in the study was to determine correlations between exercises graphs and their spatial representation. After applying the tests, data analysis was performed using SPSS 20.0.
For the validity of the results we made a correlation of the applied test with an intelligence test (Good enough test) for this age.
From the results we can say that there is strong correlation between the applied test, time achieved, and the Good enough test (r =0,734), in the test group there is a strong correlation between initial testing at dominant hand and non-dominant hand (r =0,945) and final testing at dominant hand and non-dominant hand (r = 0,820).
According to the results, the research substantiates the importance of psychomotricity to the subsequent motor development of the child.

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Keywords: Psychomotricity; preschool children; memory; spatiality; development.

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1. **Background**

“Before he can learn that “p” is down and “b” is up, he must learn when he is down and when he is up. Directionality must become a part of the body scheme before any child can have a real appreciation of the directionality of letters, numbers and words.” (Capon, 1975). Cognitive mechanisms determine the development of skills acquired during learning (Anderson, 1982, Fitts, Posner, 1967, Magill, 2011). Of particular interest for skill acquisition is the role that mental representations play in the learning and control of actions. Recent research on mental representation of complex action has revealed distinct differences in the structure of representational frameworks between experts and novices (Frank, Land, Popp, Schack, 2014). The perceptive-motor structure and the understanding of spatiotemporal concepts are important in the acquisition of writing (Kambas, Fatouros, Christoforidis, Venetsanou, Papageorgiou, Giannakidou, Aggeloussis, 2010; Marr, Windsor, Cermak, 2001; Sortor & Kupl, 2003).

2. **Aim of study**

**Aim of study:** Identify possible correlations between graphical exercise and spatiality which allow us, finally to create and implement of a psychomotor development program for preschool aged children.

**Hypothesis:** There is a correlation between exercise graphs and their spatial representation.

**Subjects:** This study was made on 34 preschool children with ages between 51— and 72 months ±3 months old. The children were divided into 2 groups (test group and control group).

3. **Methods**

We used a graphical test, direction test and Good enough test (Coaşan, 2003)

**Procedure:** The graphical test and the direction test are the same except that in the first one the children must join points in ascending order (each box contains an increasing number of puppies from 1 to 8). Following this test, the skills that were evaluated were: the perceptual notion of spatiality regarding right-left, forward, horizontal, vertical, and the ability to relate number to quantity and back. In order to determine the notion of body schema and laterality, the test was applied to the right hand and the left hand. After applying the graphical test and training the visual perception route, each kids must was asked to do the same test on the floor (direction test).

In the direction test, the children were asked to join points on the floor using, instead of pencil, some sticks painted the same color as the pencil. We respected the same conditions for the direction test as in the graphical test. The direction test applied to the individual was performed using first the right hand then the left hand. The test was timed.

All the children performed the same tests, but the test group repeated the first two tests after one week, during which period they did some graphical exercises and some memory exercises.

4. **Results**

After applying the tests, data analysis was performed using SPSS 20.0. In the next table we note with TI initial test and with TF – final test. For the validity of the results we made a correlation of the applied test with the intelligence test (Goodenough test) for this age.

| Table 1 - Pearson Correlation for control group | **. Correlation is significant at the 0.01 level (2-tailed).** |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| age (month) | Age (years) | Test direction TI right (seconds) | Test direction TI left (seconds) | Test direction TF right (seconds) | Test direction TF left (seconds) | Good | enough Test |
| age (month) | 1 | ,915** | -1,199 | -0,22 | -0,386 | -0,619** | ,734** |
| age (years) | 1 | 1 | -.074 | .043 | -1,188 | -0,683** | ,758** |
| Test direction TI right (seconds) | 1 | 1 | ,258 | .615** | -0,022 | -0,071 |
| Test direction TI left (seconds) | 1 | 1 | ,109 | -0,040 | -0,056 |
| Test direction TF right | 1 | 1 | ,159 | -1,154 | | | |
5. Conclusions

After applying the tests it was observed that children have difficulty in drawing lines with their left hand: lines are not straight, and they have difficulty joining the dots. Most boys finish the sheet more quickly than the girls. Girls are more ordered in drawing lines than boys, which takes more time. From the results we can say that there is strong correlation between the applied test, time achieved, and Good enough test \( r = 0.734 \) (table 1). In the test group there is a strong correlation between initial testing at dominant hand and non-dominant hand \( r = 0.945 \) (table 2) and final testing at dominant hand and non-dominant hand \( r = 0.820 \) (table 2).

According to the results, the research substantiates the importance of psychomotricity to the subsequent motor development of the child. Education of perceptual motor structure can be considered to be an element of the upper structure at body diagram.

Recent research on the mental representation of complex actions has revealed distinct differences in the structure of representational frameworks between experts and novices.

Recommendations

In future research we might focus on the question of how different (mental) practice conditions (duration, scheduling, composition of practice) contribute to the development of mental representation structures and how they influence the acquisition of complex structures. A perceptual motor program, therefore, uses movement activities to enhance academic or cognitive skills.

The psychomotor behavior of each individual endowment evolves according to skills, the degree of physical and intellectual development, and educational influences which the child has undergone throughout childhood.

References


