128 - PSYCHOMOTOR AND PHYSICAL EDUCATION ALLIED TO IMPROVE CHILD DEVELOPMENT

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INTRODUCTION

Coste (1992) argues that the psychomotor is a science that has the human body as an aggregate in all types of possible development, as object of study. This science is the result of countless points of view and was established on a solid base encompassing a wide range of sciences, like biology, psychology, psychoanalysis, sociology and linguistics. It is characterized by giving the man the dominion over his body. The development is a systematic and continuous process that begins at conception and ends with death. (Borges, 2002; GALLAHUE, OZMUN 2005).

According to Molinari and Sens (2003), the psychomotor is responsible for the human development in the aspects of body, mind, spirit, nature and society. This science is directly related to affection and personality, because the body is the most effective way to externalize feelings.

Motility and the maturation process establish a reciprocal relationship, because in each age group the movement has considerable relevant properties, which results in an increased capacity for interaction between the individual and the environment. Each new experience provides a learning and exerts great influence on the acquisition of future knowledge, both within the motor scope and of the cognitive scope (FONSECA, 1998).

The objective of this study is to demonstrate that psychomotor classes through Physical Education, directly interfere with the development of students.

MATERIAL AND METHOD

It was considered as a study population, 29 children of both sexes from the private school network in the city of Anapolis - GO. These were between 6 and 8 years old, 43% being female and 54% male.

For classification on the psychomotor performance, a Rosa Neto (2002) battery of psychomotor tests was used.

The tests were applied at first to check the psychomotor levels of the students. Based on these data, psychomotor interferences were performed during three months. After the intervention, the retest was applied.

The nonparametric t Test of Wilcoxon from the SPSS statistical program was used, adopting a significance level of ($p < 0.05$).

RESULTS

Table 1 shows the results regarding fine motor, giving the values found in the 1st and 2nd moments. In the 1st moment, it was found that the vast majority of children, 37.0%, was rated as much lower, followed by a percentage also high, 25.9%, classified as normal medium. In the 2nd moment, approximately half of the children, 40.7%, was classified as medium normal, obtaining relevant results in higher classifications, 14.8%, and much higher, 11.1%.

TABLE 1: Fine motricity

Classification	1st Moment	2nd Moment
Much Higher	0.0	**11.1***
Higher	3.7	**14.8***
High Normal	7.4	3.7
Medium Normal	25.9	**40.7***
Low Normal	18.5	14.8
Inferior	7.4	11.1
Much Inferior	37.0	**3.7***
Total	100.0	100.0

$p \leq 0.001$.

Table 2 shows the results regarding the global motricity, giving the values found in the 1st and 2nd moments. In the 1st moment it was found that the vast majority of the children, 40.7%, was classified as normal medium. In the 2nd moment, the majority of these children, 33.3% was classified as much higher.

TABLE 2 Global motricity

Classification	1st Moment	2nd Moment
Much Higher	3.7	**33.3***
Higher	14.8	18.5
High Normal	22.2	22.2
Medium Normal	40.7	18.5
Low Normal	7.4	**3.7***
Inferior	0.0	3.7
Much Inferior	11.1	**0.0***
Total	100.0	100.0

$p \leq 0.004$

Table 3 shows the results for balance, giving the values found in the 1st and 2nd moments. In the 1st moment, it was found that the vast majority of children, 48.1%, was classified as normal medium, followed by a significant percentage, 22.2%,

classified as low normal. In the 2nd time the same percentage of children, 48.1% remained classified as normal medium, but significant percentages were obtained in higher classifications, 18.5%, and much higher, 14.8%.

TABLE 3: Balance

Classification	1st Moment	2nd Moment
Much Higher	0.0	**14.8***
Higher	11.1	**18.5***
High Normal	11.1	7.4
Medium Normal	48.1	48.1
Low Normal	22.2	**0.0***
Inferior	7.4	7.4
Much Inferior	0.0	3.7
Total	100.0	100.0

$p \leq 0.010$.

Table 4 shows the results for body scheme, presenting the values found in the 1st and 2nd moments. In the 1st moment, it was found that the vast majority of children, 29.6%, was classified as inferior, followed by a percentage also high, 22.2% classified as normal medium and low normal. In the 2nd moment, significant results in the rankings medium normal, 29.6%, and high-normal, 25.9% were obtained. There was also a considerable percentage of children classified as much higher, 11.1%.

TABLE 4: Body scheme

Classification	1st Moment	2nd Moment
Much Higher	0.0	**11.1***
Higher	3.7	**7.4***
High Normal	7.4	**25.9***
Medium Normal	22.2	**29.6***
Low Normal	22.2	22.2
Inferior	29.6	**3.6***
Much Inferior	14.8	**0.0***
Total	100.0	100.0

$p \leq 0.000$.

Table 5 shows the results regarding the spatial organization, exposing the values found in the 1st and 2nd moments. In the 1st moment, there were equal percentages of children classified as medium normal, 29.6%, and low normal, 29.6%. In the 2nd moment, the vast majority of children, 51.9% was classified as normal medium, obtaining relevant results in the much higher classification, 7.4%.

TABLE 5: Spatial organization

Classification	1st Moment	2nd Moment
Much Higher	0.0	7.4
Higher	11.1	7.4
High Normal	14.8	7.4
Medium Normal	29.6	51.9
Low Normal	29.6	22.2
Inferior	7.4	3.7
Much Inferior	7.4	0.0
Total	100.0	100.0

$p \leq 0.133$.

Table 6 shows the results regarding the temporal organization, exposing the values found in the 1st and 2nd moments. In the 1st moment, it was found that significant percentages of children were classified as low normal, 33.3%, and as much lower, 14.8%. In the 2nd moment, 48.1% of children were classified as low normal, and 3.7% were classified as high normal.

TABLE 6: Temporal organization

Classification	1st Moment	2nd Moment
Much Higher	0.0	0.0
Higher	0.0	0.0
High Normal	0.0	**3.7***
Medium Normal	29.6	**33.3***
Low Normal	33.3	**48,1***
Inferior	22.2	**14.8**
Much Inferior	14.8	0.0*
Total	100.0	100.0

$p \leq 0.022$.

DISCUSSION

Venâncio and Braga (2007), published a study whose aim was to assess the psychomotor profile of children between 4 and 5 years old, of both sexes, of two private schools in the city of Anápolis - GO, and in one college, the students were submitted to Physical Education classes, designed for psychomotor development and, in the other, where there was no Physical Education classes. Their results show that children who have physical education classes are ahead in all the factors of the Psychomotor Battery of Fonseca (1998), compared to children who are hampered by the lack of these experiences. As indicated, the results of this study point to children that obtained excellent improvements in the psychomotor level.

Souza Neto et al. (Undated) investigated and interfered in the motor components affecting the literacy of 39 children

aged 7 to 11 years in the city of Limeira - SP. For this, the authors used the Battery of Psychomotor Tests of Rosa Neto (2002). They diagnosed in their findings that the students had limitations in the categories: body scheme, spatial and temporal orientation. Based on this, a plan of intervention was elaborated, and, at its end, it was found that the psychomotor problems had been remedied. Similar results were found in this study, which showed a good level of significance, comparing the first with the second moment. One attests, again, the importance of psychomotor intervention through Physical Education classes.

Already Brêtas et al. (2005) evaluated the following psychomotor functions of 86 children: fine and global psychomotor, body scheme, spatial adaptation, visual and tactile memories, left / right discrimination, graphics, rhythm, concentration and lateral dominance. The majority of the population showed a good performance in the psychomotor components described above. This result is contrary to the results obtained in this study, that, in the first moment detected in most of the psychomotor components evaluated, unsatisfactory levels of motor development. However, the retest, performed after the intervention, showed significant improvements in the following items: global and fine motor skills, balance, body scheme and temporal organization. Only in the spatial organization were not detected significant results, although there were improvements.

CONCLUSION

From the analysis of data related to testing and retesting of motor functions, it can be proved that the population showed improvements in psychomotor profile in regard to fine and global psychomotor, balance, body scheme and temporal organization, obtaining a significant improvement. Only in the spatial organization significant results were not obtained, however, a great progress was noted.

At the end of this study, it is deemed extremely important the application of psychomotor Physical Education in preschool and school. Further research is suggest in order to consolidate and extend psychomotor knowledge. New publications are also necessary for the assignment of the development order of the psychomotor components.

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PSYCHOMOTOR AND PHYSICAL EDUCATION ALLIED TO IMPROVE CHILD DEVELOPMENT

This study aimed to prove that psychomotor lessons through Physical Education, directly interfere with the development of children. Thus, tests were applied using the Battery of Psychomotor Tests of Rosa Neto (2002), which classifies the psychomotor profile of children by analyzing six factors: fine psychomotor, global psychomotor, balance, body scheme, spatial organization and temporal organization. The sample consisted of 29 students of both sexes living in the city of Anápolis - GO. These are between 6 and 8 years old, 12 being females and 15 males. There was a sample loss of 2 children. Results of the first moment showed that the majority of students was ranked much lower in the item fine psychomotor, medium normal in global psychomotor and balance, inferior in body scheme, low normal in spatial organization and temporal organization. According with the results of the second moment, great improvements were detected, compared with the first results, demonstrating a good significance level as to the fine psychomotor, global psychomotor, balance, body scheme and temporal organization. Only in spatial organization significant results were not obtained, however, great progress was noticed. Therefore, this study demonstrated that psychomotor lessons applied twice a week with a duration of 50 minutes and for a period of three months, promote significant improvements in child development, interfering favorably on the school performance of children.

KEY - WORD: Psychomotor; students; physical education.

PSYCHOMOTRICITÉ ET ÉDUCATION PHYSIQUE ALLIÉES À L'AMÉLIOREMENT DU DÉVELOPPEMENT ENFANTIN.

Cette étude a eu comme finalité de prouver que les cours de psychomotricité à travers de l'éducation physique, interfère directement dans le développement des enfants. Pour cela, on a utilisé une batterie de tests psychomoteurs de Rosa Neto (2002), qui classe le profil psychomoteur des enfants à travers de l'analyse de six facteurs : motricité fine, motricité globale, équilibre, régime corporelle, organisation spatiale et organisation temporelle. L'échantillon est constitué de 29 écoliers des deux sexes habitants la ville d'Anápolis-GO. Ils ont tous entre 6 à 8 ans, comprenant 12 du sexe féminin et 15 du sexe masculin. Il y a eu une perte de 2 enfants. Les résultats du premier moment ont démontré que la majorité des écoliers ont été classés comme très inferieure dans le point de la motricité fine, normal moyen dans la motricité globale et équilibre, inferieur dans le schéma corporel, normal bas dans l'organisation spatiale et l'organisation temporelle. D'après les résultats du second moment, il a été détecté de grandes améliorations en comparaison aux premiers résultats, démontrant un bon niveau de signifiance en ce qui

concerne la motricité fine, motricité globale, l'équilibre, le schéma corporel et l'organisation temporelle. Seulement dans l'organisation spatiale, il n'y a pas eu de résultat significatif, cependant, nous avons constaté un grand progrès. Donc, cette étude a démontré que des cours de psychomotricité appliqués 2 fois par semaine, avec 50 minutes de durée et pour une période de trois mois, donnent origine à une amélioration significative dans le développement de l'enfant, intervenant favorablement dans les performances scolaires des enfants.

MOTS CLÉS: Psychomotricité; écoliers; Education Physique.

PSICOMOTRICIDAD Y EDUCACIÓN FISICA ALIADAS A LA MEJORIA DEL DESARROLLO INFANTIL

El presente estudio tuvo como propósito probar que clases de psicomotricidad por medio de la Educación física, interfieren directamente en el desarrollo de los niños. Para eso se utilizó la batería de Pruebas Psicomotoras de Rosa Neto (2002), que clasifica el perfil psicomotor de los niños por medio del análisis de seis factores; motricidad fina, motricidad global, equilibrio, esquema corporal, organización espacial y organización temporal. La muestra fue constituida por veintinueve (29) colegiales de ambos sexos residentes en el municipio de Anápolis-GO. Éstos niños se encuentran entre los 6 y 8 años de edad, de los cuales 12 son del sexo femenino y 15 del sexo masculino. Hubo una pérdida de muestras de 2 niños. Los resultados del primer momento demostraron que la mayoría de los colegiales fue clasificada como muy inferior a lo que se refiere motricidad fina, normal medio en motricidad global y equilibrio, inferior en esquema corporal, normal bajo en organización espacial y organización temporal. De acuerdo con los resultados del segundo momento, fueron detectadas grandes mejorías en comparación con los primeros resultados, demostrando buen nivel de significancia en lo que concierne a la motricidad fina, motricidad global, al equilibrio, esquema corporal y a la organización temporal. Sólo en la organización espacial no fueron obtenidos resultados significativos, sin embargo se constató un gran progreso. Consecuentemente este estudio demostró que las clases de psicomotricidad aplicadas dos veces por semana, con duración de 50 minutos y por un periodo de tres meses, promueven mejorías significativas en el desarrollo infantil, interfiriendo favorablemente en el desempeño escolar de los niños.

PALABRAS CLAVES: Psicomotricidad; niños; Educación física.

PSICOMOTRICIDADE E EDUCAÇÃO FÍSICA ALIADAS À MELHORA DO DESENVOLVIMENTO INFANTIL

O presente estudo teve como propósito provar que aulas de psicomotricidade por meio da Educação Física, interferem diretamente no desenvolvimento das crianças. Para isso foi utilizada a Bateria de Testes Psicomotores de Rosa Neto (2002), que classifica o perfil psicomotor das crianças por meio da análise de seis fatores: motricidade fina, motricidade global, equilíbrio, esquema corporal, organização espacial e organização temporal. A amostra foi constituída de 29 escolares de ambos os sexos residentes no município de Anápolis – GO. Estas encontram-se entre 6 e 8 anos de idade, sendo 12 do sexo feminino e 15 do sexo masculino. Houve uma perda amostral de 2 crianças. Os resultados do primeiro momento demonstraram que a maioria dos escolares foi classificada como muito inferior no quesito motricidade fina, normal médio em motricidade global e equilíbrio, inferior em esquema corporal, normal baixo em organização espacial e organização temporal. De acordo com os resultados do segundo momento foram detectadas grandes melhoras em comparação com os primeiros resultados, demonstrando bom nível de significância no que concerne à motricidade fina, motricidade global, ao equilíbrio, esquema corporal e à organização temporal. Apenas na organização espacial não foram obtidos resultados significativos, entretanto, constatou-se um grande progresso. Portanto, este estudo demonstrou que aulas de psicomotricidade aplicadas duas vezes por semana, com 50 minutos de duração e por um período de três meses, promovem melhoras significativas no desenvolvimento infantil, interferindo favoravelmente no desempenho escolar das crianças.

PALAVRAS – CHAVE: Psicomotricidade; Escolares; Educação Física.