172 - MOTOR DEVELOPMENT OF GIRLS AND BOYS OF THE FOURTH YEAR OF PRIMARY EDUCATION

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INTRODUCTION

Motor development in childhood is characterized by the acquisition of a wide range of motor skills, which allows the child an area of your body in different postures (static and dynamic), move across the environment in various ways (walking, running, jumping , etc..) and manipulate objects and different instruments (to receive a ball, throw a stone, shoot, write, etc..). Chances of child motor evolve broadly in line with their age and come to be increasingly varied, complete and complex (ROSA NETO, 2002). This process is the result of the interaction between biological factors, fit the kind of individual and cultural factors, fit the social environment in which that person is inserted.

From conception to maturity there is a parallel in the development of the body, brain and behavior. For example, a child begins to run, without ever having made such behavior before, this does not mean that this ability was acquired at that very moment. Instead, there was a preparation for this behavior, such as crawling, standing, walking and finally running (apud Souza Soares, 2006).

Ozmun and Gallahue (2005) propose a two-dimensional model for classification of motor skills which emphasize four stages of motor development, reflexive, rudimentary, fundamental and specialized, and argue that the sequence within these phases is hardly changed, but the speed but, depending on the influence of the environment.

For the development of our work to turn our attention to the fundamental phase motor for Ozmun and Gallahue (2005) are voluntary movements that develop core skills and common day-to-day characteristic of childhood. In order to better classify the motor development motor for this phase are considered three stages: initial, elementary and mature, which can be identified in individuals from two to seven years old.

The initial stage represents the first attempt of the child-oriented in order to play a fundamental skill and can be identified at the age of two to three years. The elementary stage involves greater control and better coordination of rhythmic movements fundamental and can be identified at the age of three to four years of age. And the last stage, the mature play is characterized by fundamental movements efficient, coordinated and controlled and those features can be seen in children under the age between five and seven years.

Although Ozmun and Gallahue (2005) relate the chronological age of the stage of development of key stage, they emphasize that the motor development of the individual does not depend on age and may be changed, because that development depends on two key factors that are maturing (factors specific to individuals) and experience (environmental factors). The authors classify the skills of each phase motor in three categories: stabilizers, locomotor and manipulative.

The stability is related to support the body against the force of gravity in different situations of movement or static equilibrium, (lying, sitting, standing). Locomotion involves the projection of the body in space in a horizontal, vertical or diagonal, is important in learning to move, effectively and efficiently, the environment. And finally, the fundamental manipulative movements involve the application of force to objects and / or reception of their power, often combining locomotor movements and / or stabilizers. (Gallahue and Ozmun, 2005).

In studying the concepts of motor development described above, we see that are large and significant changes that occur during childhood. These changes do not occur only in the motor area, according to Enderle (1987), the start of the school is called stage magic, it is then that the main areas of motor development, intellectual, emotional, affective and social will to develop a way sound that will contribute to lifelong learning.

In our study we are concerned with motor development, because the school is only a discipline directly related to movement, physical education. As we have discussed the experience, ie, the practice of fundamental movements is of vital importance to the mastery of motor skills. Therefore, the Physical Education takes important role as it can structure the environment for the child, providing experiences, resulting in a great helper and promoter of human development, particularly motor development and ensure the learning of specific skills in games, sports, gymnastics and dance (1982 Flinchum, Tani 1988, and Eckert 1993). For these skills are developed is necessary to give the child opportunities to perform them.

The evaluation is a means by which to evaluate if the goals are actually being achieved. Only if we assess the motor development have concrete information of physical disabilities, so it is very important to carefully analyze motor engines identify delays and we plan lessons that meet the needs of our students.

Thus the aim of our study is to diagnose delays engines through specific evaluative tests proposed by Gallahue and Ozmum (2005) children in the fourth year of elementary school.

METHODOLOGY

The target group of this study consisted of 80 children of both sexes, with 36 boys and 44 girls aged nine years, enrolled in the 4th year of primary education in public schools. All subjects participating twice a week of physical education course in school where they study. The study was approved by the CER (Committee for Research Ethics) Protocol 004/07 and had the signature of the Consent of those responsible for school. After these procedures have been initiated in this cross-sectional study, which describe the data collected within a qualitative approach, obtained by quantifying descriptive percentage of some data.

All subjects were evaluated according to the two-dimensional model of Ozmum and Gallahue (2005), which classifies the fundamental motor skills in three stages: initial, elementary and mature. The skills tested were horizontal jump, lateral, roll, balance on one foot, throwing and kicking, so two movements in each category stabilizing, locomotor, manipulative, respectively.

The instruments used for data collection were used: a camcorder JVC brand ®, two mattresses, a tabula measuring 3x15x100 three small balls of socks, two footballs penalty, two medium cones and free space of 15 m.

The children were taken to court for shooting. Running by the subject three times every move, from an initial position to the end of it. Every attempt has been examined by fashion and was chosen the one with better results.

The data were presented in values of central tendency (mean), dispersion (standard deviation) and descriptive

analysis, initially suffering a normality test of Shapiro-Wilking. The data showed a non-normal distribution and so we used the Mann-Whitney test for comparison between genders. All tests were performed in the computer software SPSS 14.0 for Windows, with the significance level of $p < 0.05$ for comparison between genders.

RESULTS AND DISCUSSION

The ages of the children studied are 9 years old, according to the Model Two-Dimensional Phases of Motor Development of Gallahue (2005), children in this age group should be in the mature stage of fundamental motor skills at this stage skills motor should already be fully developed. Therefore, the results of the analysis of the skills of locomotion, manipulation and stabilizing of the subjects studied should be presented at the mature stage of development.

However, only the movements of kicking and throwing more than 50% of boys showed results in the mature stage, for all other movements most boys qualified at the elementary stage and even in the initial (lateral). Since most of the girls for all the movements were classified as elementary or initial (Table 1).

Mafort et.al. (2007) analyzed the fundamental patterns of movement in school from seven to nine years of age who participated in two physical education classes per week. Through the results concluded that the children did not perform in the expected level, ie the mature stage. It also discusses the older subjects, ie nine years have been the closest to the mature stage due to the amount of experience you get more than the others just by being older and not participate in classes that aim to develop engine. Concludes by emphasizing the importance of specific activities to develop patterns of movement.

Gallahue and Osmun (2005) argue that child to achieve the mature pattern of motor development of fundamental motor skills activities, instructions are essential. The recreational activities such as play games and contribute to its development, but without the instruction of the movement patterns of the development of basic skills is unlikely to be conducted with as much certainty and accuracy.

Skills	Subject Nº %	Home %	Elementary %	Maduro %
Horizontal jump				
Female	44	45,45	43,18	11,36
male	36	16,66	50	33,33
Displacement				
Female	44	56,81	25	18,18
male	36	55,5	16,66	27,77
Balance				
Female	44	20,45	50	29,54
male	36	22,22	38,88	38,88
Roll				
feminino	44	40,9	34,09	25
masculino	36	16,66	36,11	47,22
Throw				
Female	44	34,09	45,45	20,45
male	36	16,66	27,77	55,55
Kick				
Female	44	38,63	56,81	4,54
male	36	5,55	38,88	55,55

TABLE 1 - Distribution of relative frequency of stages of motor development observed in fundamental motor skills horizontal jump, lateral, balance, roll, throw and kick the genera.

SKILLS	1=F, 2=M	MEDIA/ STANDARD DEVIATION	SIGNIFICANCE
Throw	1	1,86±0,73	0,003
	2	2,38±0,76	
Kick	1	1,65±0,58	0
	2	2,5±0,60	
Displacement	1	1,61±0,78	0,658
	2	1,72±0,88	
Horizontal jump	1	1,65±0,68	0,002
	2	2,16±0,69	
Balance	1	2,09±0,70	0,61
	2	2,16±0,77	
Roll	1	1,84±0,80	0,011
	2	2,3±0,74	

TABLE 2 - Mean, standard deviation and significant difference for comparison between genders of fundamental motor skills horizontal jump, lateral, balance, roll, throw and kick the genre.

MANIPULATIVE SKILLS

The results (Table 1) show that the motor ability Manipulative Kick most of the female is in the elementary stage (56.81%), only 4.54% of girls are in the mature stage. The male 55.55% is within the expected result, ie the mature stage. For these results revealed significant differences (Table 2), because the boys had better results.

Throw in motor skill most of the females was recorded in the elementary stage, since it has been the result of only 45.45% and 20.45% were in the mature stage, the males in the mature stage got 55.55% but 38.88% of the subjects in elementary stage (Table 1). We also found a difference to these results, showing that boys also showed better results (Table 2).

Paim (2003) in their research showed that children of 6 years had better results for manipulative motor skills purchased with girls the same age group.

Valentini (2002) to compare the motor performance of boys and girls of different ages found that to control the movements of objects, or manipulating the children showed superior results. These results were similar to this research. Other studies confirm this trend (Urich, 1987; GOODWAY, 1997).

SKILLS LOCOMOTORAS

Lateral Displacement in the ability both genders showed similar results and levels lower than expected, because females showed 56.81% of subjects in the initial stage and only 18.18% in the mature stage, the males had a ratio of 55.5% in the initial stage and 27.77% in the mature stage (Table 1).

Most of the data of locomotor ability in the long jump for women was recorded in the initial stage with 45.45%, only 11.36% are in mature stage. For boys 50% of them are in the elementary stage and 33.33% in the mature stage (Table 1). Although the genera present rates lower than expected, we found differences, indicating that boys had better results (Table 2).

Guedes and Guedes (1997) state that during childhood, boys have greater muscle strength of lower limbs, which may have contributed to have better locomotor movements compared with the girls.

Olivoto and Bordignon (2004), to diagnose the level of physical fitness in school children 8 to 10 years of age also found that 9 year old boys have more muscle strength of lower limbs stuck with girls the same age group.

SKILLS ESTABILIZADORAS

Stabilizing ability in balance with one foot in females had a ratio of 50% in the elementary stage and 29.54% in the mature stage, while the male had a ratio of 38.88% in both the elementary stage and mature (Table 1). We have not identified significant differences (Table 2).

The ability of the body bearing different between genders (Table 2). The female is in the initial stage with 40.9% and mature in only 25%. The males gained 47.22% for the mature stage.

Guedes and Guedes (1997) discuss the likelihood of girls in childhood have better results than boys in relation to the skills of balance. However, the results of this research is not made evident difference to the movement of balance on one foot and showed better results for the boys to the rolling motion of the body. Paim (2003) also showed similar results, identifying the children 6 years of age that assessed showed better results than the skills of stabilization.

According Ozmun and Gallahue (2005) The roll requires great control of balance and only children who have experience specific motor can reach the mature stage of this ability. Therefore, the individuals who practice these skills most will most will meet their standard developed.

CONCLUSION

The infantile phase is the time when individuals acquire more easily and basic motor skills domain, because it is a critical stage and susceptible to this development takes place. We know that the development of these skills in the capacity to move us more and more autonomous, allowing us to perform specific activities as a sport.

In order to investigate whether the practical activities carried out during physical education classes are providing such a development for the subjects of this research, we are concerned to do it because these skills do not develop naturally during infancy, they are results of experiments and environmental factors in constant interaction, affect the motor performance of children and adolescents, providing practical activities from the perspective of active and healthy life (Newell, 1984; Valentini, 2002).

However, the results showed that the subjects are with their motor development lags behind their chronological age. Most of them are found in the elementary stage and not mature as they should. Miller (1968 apud Ozmun and Gallahue, 2005) argues that to achieve mature levels of development of fundamental motor skills an instructional program is now more effective programs to play, that is, the physical education activities should aim to develop such skills and provide activities that seek such development, and not believe that any conduct recreational play that role.

Therefore, the physical education teachers should plan their lessons so that pupils new experiences, leaving the traditional classroom recreation and implement a program to suit your driving needs.

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MOTOR DEVELOPMENT OF GIRLS AND BOYS OF THE FOURTH YEAR OF PRIMARY EDUCATION

ABSTRACT

This study aimed to diagnose motor delays of 80 children of both sexes, with 36 boys and 44 girls aged nine years, enrolled in the 4th year of primary education in public schools. All subjects were evaluated according to the two-dimensional model of Ozmum and Gallahue (2005), which classifies the fundamental motor skills in three stages: initial, elementary and mature. The skills tested were horizontal jump, lateral, rolling the body, balancing on one foot, throwing and kicking, so two movements in each category stabilizing, locomotor, manipulative, respectively. The data were presented in values of central tendency (mean), dispersion (standard deviation) and descriptive analysis, initially suffering a normality test of Shapiro-Wilking. The data showed a non-normal distribution and so we used the Mann-Whitney test for comparison between genders. All tests

were performed in the computer software SPSS 14.0 for Windows, with the significance level of p <0.05 for comparison between genders. The data suggest that: (1) most boys and girls lag behind in relation to motor all motor skills tested, (2) boys and girls show locomotor performance lateral similar but boys show superiority to move the horizontal jump, (3) manipulative boys show higher performance than those of girls, (4) boys show performance stabilizer bearing upper body, although the two genera present motor delay, however statistical analysis showed superiority of the girls the ability to balance on one foot. Opportunities for teaching practices are essential for the development engine. The activities of physical education should provide education activities to develop the mature stage of fundamental motor skills.

KEYWORD: Fundamental Motor Ability, Gender, Motor Evaluation.

MOTEUR DE DÉVELOPPEMENT DES FILLES ET GARÇONS DE LA QUATRIÈME ANNÉE DE L'ENSEIGNEMENT PRIMAIRE

RÉSUMÉ

Cette étude vise à diagnostiquer les retards à moteur de 80 enfants des deux sexes, avec 36 garçons et 44 filles âgés de neuf ans, inscrits en 4e année de l'enseignement primaire dans les écoles publiques. Tous les sujets ont été évalués selon les deux modèle dimensionnel de Ozmum et Gallahue (2005), qui classe les habiletés motrices fondamentales en trois étapes: initiale, élémentaire et mature. Les compétences ont été testées saut horizontal, latéral, rouler le corps, en équilibre sur un pied, lancer et coups de pied, donc deux mouvements dans chaque catégorie de stabilisation, locomotrice, manipulatrice, respectivement. Les données ont été présentées dans les valeurs de tendance centrale (moyenne), la dispersion (écart-type) et une analyse descriptive, la souffrance d'abord un test de normalité de Shapiro-Wilking. Les données ont montré une non-distribution normale et nous avons utilisé le test de Mann-Whitney pour la comparaison entre les sexes. Tous les tests ont été effectués dans le logiciel SPSS 14.0 pour Windows, avec le niveau de signification de p <0,05 pour la comparaison entre les sexes. Les données suggèrent que: (1) la plupart des garçons et des filles sont à la traîne par rapport aux automobiles à moteur testé toutes les compétences, (2) les garçons et les filles présentent des performances locomotrices latéraux semblables mais les garçons montrer la supériorité de déplacer le saut horizontal, (3) les garçons montrent manipulatrice de meilleures performances que celles des filles, (4) les garçons montrent stabilisateur de rendement des roulements du haut du corps, bien que les deux genres retard moteur, toutefois l'analyse statistique a démontré la supériorité des filles de la capacité de l'équilibre sur un pied. Opportunités pour les pratiques pédagogiques sont essentiels pour le moteur du développement. Les activités de l'éducation physique devrait prévoir des activités d'éducation pour développer la maturité des habiletés motrices fondamentales.

MOT-CLÉ: la capacité motrices fondamentales, le sexe, l'évaluation à moteur.

MOTOR DE DESARROLLO DE NIÑOS Y NIÑAS DEL CUARTO AÑO DE LA EDUCACIÓN PRIMARIA

RESUMEN

Este estudio tuvo como objetivo diagnosticar el retraso motor de 80 niños de ambos sexos, con 36 niños y 44 niñas de nueve años, matriculados en el 4 º año de educación primaria en escuelas públicas. Todos los sujetos fueron evaluados de acuerdo a las dos del modelo tridimensional de Ozmum y Gallahue (2005), que clasifica a las habilidades motoras fundamentales en tres fases: inicial, primaria y madura. Las destrezas que se evalúan se salto horizontal, lateral, el balanceo del cuerpo, el equilibrio sobre un pie, lanzamientos y patear, así que dos movimientos de cada categoría de estabilización, del aparato locomotor, manipulador, respectivamente. Los datos fueron presentados en los valores de tendencia central (media), dispersión (desviación estándar) y el análisis descriptivo, inicialmente el sufrimiento una prueba de normalidad de Shapiro-Wilking. Los datos mostraron una no-distribución normal y así se utilizó el test de Mann-Whitney para la comparación entre los géneros. Todas las pruebas fueron realizadas en el software informático SPSS 14.0 para Windows, con el nivel de significación de p <0,05 para la comparación entre los géneros. Los datos sugieren que: (1) la mayoría de los niños y las niñas rezagadas en relación con el motor de todas las habilidades de motor probado, (2) niños y niñas muestran el rendimiento del aparato locomotor laterales similares, pero los varones muestran una superioridad para mover el salto horizontal, (3) los niños de manipulación muestran un rendimiento superior al de las niñas (4), estabilizador de los niños muestran comportamiento del cojinete superior del cuerpo, aunque los dos géneros retraso motor actual, sin embargo el análisis estadístico demostró la superioridad de las chicas la capacidad de equilibrio sobre un pie. Oportunidades para las prácticas de enseñanza son esenciales para el motor de desarrollo. Las actividades de educación física deben proporcionar actividades de educación para desarrollar la etapa de madurez de las habilidades motoras fundamentales.

PALABRA CLAVE: la capacidad motora fundamental, de género, la evaluación de motor.

DESENVOLVIMENTO MOTOR DE MENINAS E MENINOS DO QUARTO ANO DO ENSINO FUNDAMENTAL

RESUMO

O presente estudo teve como objetivo diagnosticar atrasos motores de 80 crianças de ambos os sexos, sendo 36 meninos e 44 meninas com idade de nove anos, regularmente matriculados no 4º ano do ensino fundamental de uma escola pública. Todos os sujeitos foram avaliados de acordo com o Modelo Bidimensional de Gallahue e Ozmum (2005), o qual classifica as habilidades motoras fundamentais em três estágios: inicial, elementar e maduro. As habilidades avaliadas foram salto horizontal, deslocamento lateral, rolamento do corpo, equilíbrio com um pé só, arremessar e chute, sendo assim, dois movimentos de cada categoria estabilizadora, locomotora, manipulativa, respectivamente. Os dados foram apresentados em valores de tendência central (media), dispersão (desvio padrão) e análise descritiva, sofrendo inicialmente um teste de normalidade de Shapiro-wilking. Os dados apresentaram uma distribuição não normal e por isso foi utilizado o teste Mann-Whitney para comparação entre os gêneros. Todos os testes foram realizados no pacote computacional SPSS 14.0 for Windows, tendo como nível de significância p<0,05 para a comparação entre os gêneros. Os dados sugerem que: (1) a maioria dos meninos e das meninas evidencia atrasos motores em relação às todas as habilidades motoras analisadas; (2) meninos e meninas evidenciam desempenhos locomotores deslocamento lateral similares, porém meninos evidenciam superioridade ao movimento salto horizontal; (3) meninos evidenciam desempenhos manipulativos superior que os das meninas; (4) meninos evidenciam desempenho estabilizador rolamento do corpo superior, apesar de os dois gêneros apresentarem atraso motor, contudo a análise estatística demonstram superioridade das meninas para a habilidade equilíbrio com um pé só. Oportunidades de práticas de ensino são essenciais para o desenvolvimento motor. As atividades de educação física escolar devem proporcionar atividades de instrução para desenvolver o estágio maduro das habilidades motoras fundamentais.

PALAVRA- CHAVE: Habilidade motora fundamental, gênero, avaliação motora.

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