## 88 - EVALUATION OF DEVELOPMENT MOTOR SCALE OF THE PIRACEMA PROJECT CHILDS "SWIMMING TO INDIVIDUALS WITH SPECIAL NEEDS."

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#### Introduction

Currently, those with special needs, have difficulties in the construction / operation of a dignified citizenship and in the process of forming a social conscience consistent with its reality, since the democratic discourse does not always correspond to the actions of human interactivity, some smaller groups of the community, particularly those with special needs, remain in marginality, broken / excluded, requiring specific laws that will ensure them an exercise of the rights and duties. However, the Special Education has a role of increasing relevance within the aspect of meeting the crescent demands of a society in renovation and in search of a democracy that will be effective only when all persons, without discrimination, have access to information, knowledge and the resources necessary to train their full citizenship. (Cardoso, 2003).

Social integration, as Sassaki (2005), give to us the idea that it comes to confront the practice of social exclusion that were submitted the people with special needs for several centuries, and that social integration occurred and occurs in three ways, considered segregationist and being them: the insertion unchanged from the society or the physical space; insertion with a few modifications in the form of action (changes in physical space and some changes in the allocation of tasks), and by placing in separate environment but with schedules in common with the rest the company / group.

Ribeiro (2003) still talks about the Salamanca Declaration that highlights the possibility and the advantage of living together between the diferents, that have the rights to a unified education to achieve citizenship with quality of life, always evaluating the most ethical way to do this acquaintance be, in fact something that brings that advantage, especially for individuals with special needs. For the non-carriers, the main advantage, coming through coexistence with others, respecting differences and their limitations. And through this unified education all this process is possible.

About water activities for individuals with special needs can not fail to mention Oliva and Villagra (2003) stating that, the water brings many benefits within the range of physical therapy, which is known and appreciated on many occasions. About simplification of the patterns of movement in the aquatic environment, this simplifications are realized in conditions of postural control and occur expanding appropriate ways to handle the patient, guiding their movements which must be active and the postural adaptation about our handling when necessary. This may be hampered by psychological reasons such as fear / insecurity that may produce an increase in tensions posture, manifesting itself in unusual patterns, involuntary movements, spasms, tremors and compensation. Leaving it any approach to the aquatic environment whatever the method to apply it have to facilitate 4 points within the characteristics of this motor means: symmetry, alignment, dynamic stability, reactions of alignment, balance and defense.

Gallahue (2004), believes that motor development is the gradual change in the behavior of movement throughout life. It involves the continuous adaptation (or not) of the individual to changes in their ability to move, in a ceaseless effort to achieve and maintain the motor control and ability to move. That prospect does not consider the development as something targeted in cognitive, social-emotional and motor specific areas, nor take as if it were divided into stages or age-dependent. Instead, a lifelong perspective suggests that some aspects of the development of the individual can be contextualized in areas because they are like stages and depend on age, while other aspects can not. Moreover, the concept of obtaining and maintaining the competence of movement includes any developmental change, whether positive or negative.

It is vital that the university develop projects to give conditions of these individuals to produce an autonomy that they may be included in society. In physical-social aspect, Sassaki (2005) says that this relationship to the environment and person determines the degree of autonomy. Differentiating autonomy and independence, in physical appearance means the process of being in a certain situation and have no autonomy to resolve that situation, but have the independence to ask and get help. In the social aspect where there has no autonomy to participate in a particular conversation, but has independence to made a decision to leave him more comfortable in a determined situation. The Project Piracema - Swimming For people with special needs - the UNISC (University of Santa Cruz do Sul) is conducted in partnership with APAE (Association of Parents and Friends of Exceptional) since 1984. The project serves 32 pupils aged from 05 to 43 years with various pathologies. The project aims to give people with special needs the opportunity to develop experience in water and with water as a means of promoting their development as human beings, contributing to the process of building cultural bodies to emphasize the realization of man, respecting the aspects of the human dimension, working in this environment motor, social - cognitive and affective aspects enabling a easier way to live together in society. In the social-affective aspects, the project is important in order to work the question of social interaction with other individuals or, even in some cases, with their own family in that sometimes have difficulties in accepting the coexistence with this deficiency. In the psychological aspect works is the question of self-esteem within the overcoming of difficulties, be they physical themselves (such as floating, swimming, diving), as in the psychological (fear, anguish). In the motor aspect, which will be better specified here, this research aims to assess the motor age of the students in their respective areas within the Development Motor Scale (EDM) tests.

### METHODOLOGY

As subjects of research participated in the tests, 14 students, of which 10 were females and 4 males, of the Piracema, aged between 09 and 41 years. The tests were implemented in September 2008 to specifically assess the motor skills, Global Motion, Balance, Body Schedule / Speed, Space Organization and Language / Temporal Organization. Through the sum of the motor age of each of these aspects (in months), and after divides them by 6, we get the General Motor Age which is the most extensive aspect to be assessed by tests of Development Motor Scale (EDM). Aquatic interventions happen between April and December due to year, 3 times a week with 60 minutes each session.

## RESULTS

As Figure 1 below, the age of the Piracema Project students vary between 1 and 7 years, which shows a delay in motor development of students in general. 28% of students have two years or less, 35% of students have 4 years of general motor age, 14% have 5 years of general motor age; 09% have 6 years of general motor age and 14% have 7 years of general motor age. Results of this study confirm what Souza (1997) says that although the tests indicate deficits in its results, if stimulated rates of these deficits are likely

to be smaller as the needs of each student, contributing to its development in all aspects, since the motors, the emotional, passing by cognitive and psychological.

Figure 01 - Evaluation of General Motor Age

In the evaluation (Figure 2) of small motricity the motor age of the students alternate between 2 and 10 years in general, specifically it was found that 22% of students have motor age of 2 years or less and that their chronological ages range between 9 and 41. Pacheco (2005) citing Sanchez argues that the psychomotricity focuses on knowing the child from his motor activity and thus develops a pedagogical practices directed to discover the symbolic infrastructure that is entirely action spontaneously. This knowledge front of their small motricity leads to activities that develop habilities front of those mobility disabilities.

Figure 02 Evaluation of the Motor age 1 (linked to small motricity)

The aspect of Global Motricity (Figure 3), of the students evaluated, in general, had their motor age ranging between 1 and 7 years; has been found that: 42% of students have 2 years or less of motor age, and that their chronological ages range between 09 and 41 years; In most cases the children who have a motor deficit, also have problems in the cognitive, affective and social and can take them for life (ROSANETO, 2002).

Figure 03 - Evaluation of the Motor Age 2 (Linked to Global Motricity)

Students evaluated in the test of balance (Figure 4), had their age between 1 to 8 years. In specific evaluating figure shows that 49% of students have the motor age evaluated in 2 years or less and their chronological ages are between 9 and 41 years; According Silva, Almeida, Cassilhas et al. (2008), the balance is quite complex involving many features of the human body, such as vision, sensitivity to the ground, muscular strength, and so on. Starting from this, the fact is that the special carriers have they balance prejudiced, mainly by lack of sensory capacity and / or muscle strength.

Figure 04 - Evaluation of the Motor Age 3 (Linked to Balance)

The Figure 5 is about the Body / Speed scheme. Generally speaking, students have motor age between 1 to 7 years. 42% have motor age of 3 or 4 years and their chronological ages are between 13 and 41 years, The Body Scheme seconds Rosa Neto (2002), is a form of balance, just before the test results shows that there is an intense relationship between Balance and Body Scheme, as one influences the other directly.



Another aspect evaluated (Figure 6), was the assessment of the Organization / Space of students. The results in general, indicate that they have the motor age between 1 to 8 years. The results also show that 42%

have motor age of 3 years and their chronological ages range between 13 and 34 years. Santos (2005), citing Sisto et al focus on the movement as a way, a support that helps the child to acquire knowledge of the world that surrounds. Through their bodies, their perceptions and sensations, the manipulation of materials, the child acquires the opportunity to discover themselves.













Figure 06 - Evaluation of the Motor Age 5 (Linked to Organization / Space)

Looking at the Figure 7 last part of tests that are related to language / Temporal Organization where students have motor ages between 1 and 8 years. Moreover assesses that there are two relevant results about the development of students which were: 35% of students have motor age of 2 years or less and their chronological ages ranging between 9 and 28 years, 35% have motor age of 5 years and their chronological ages ranging between 13 and 36 years; Rosa Neto (2002), citing Piaget, reveals that time did not see or be seen, unlike the speed or the environment, it does not come in the way of senses, just in the perception of events, movements and so on. in this way for the special needs, this is something that becomes difficult to work, because in many cases do not realize there is such sensitivity of actions, time to move.





### CONCLUSION

There are no comparative data, because it is the application of unplished tests with the students of this project and in addition, it is necessary to examine each student as they respond differently according to their special need. But it can be seen through the tests that there is a greater difficulty in tests of balance and language / Temporal Organization), although these aspects are worked on swimming or in water activities with the Project Piracema students. The best results related to small motricity and language / Temporal Organization. Through aquatic interventions three times a week, so as to apply the tests again and have comparative data, confirming what several studies show: that the water activities benefit the physically and cognitively individuals with special needs.

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## EVALUATION OF THE DEVELOPMENT MOTOR SCALE OF THE PIRACEMA PROJECT CHILDS - "SWIMMING TO INDIVIDUALS WITH SPECIAL NEEDS."

The Swimming for Persons with Special Needs Project (piracema), is na association with the University of Santa Cruz do Sul (UNISC) and Association of Parents and Friends of Exceptional (APAE). It is one of the oldest projects created by UNISC since 1984 given this service for 30 students, with the most diverse pathologies. The objective of the project is to promote activities in the water environment so that students increase their repertoire of attitudes in the water and when possible elsewhere too. This research have the objective to evaluate the motor age of the students participating in the project. Subjects of this study were 14 students of both sexes. Was implemented tests of Development Motor Scale (EDM). The students were evaluated as their general motor age and in each of

the specific aspects of the tests: small motricity, Global motricity, Balance, Body / Speed Scheme, Space Organization and Language / Temporal Organization. It appeared that in the General Motor Age the majority of students have 4 years; About small motricity, has been evaluated that some of the students have motor age of 2 years or less; In Global motricity aspect a fraction of the students have 2 years of motor age or less; About balance half of the pupils have the motor age of 2 years or less; With regard to Psychotherapy / Speed scheme the largest percentage of students have motor age of 3 or 4 years; Space Organization's test shows that the majority of students have motor age of 3 years; And finally, on the language / Organization Temporal a portion of students have motor age of 2 years or less and another fraction have motor age of 5 years. Therefore, the end of this study we concluded that as the physical or neurological disorders the students found several difficulties in its different aspects.

Keywords: Motor Assessment, Water Based Activities, Population of Special Carriers of Necessities

## ÉVALUATION D'ÉCHELLE DE DÉVELOPPEMENT MOTEUR DES ENFANTS DU PROJET PIRACEMA- " NATATION POUR LES PORTEURS DE DÉFICIENCES SPÉCIALES"

Le Projet Natation pour les Porteurs de Déficiences Spéciales (PIRACEMA), c'est um parténariat entre l'Université de Santa Cruz do Sul (UNISC) et l'Association des Parents et Amis des Handicapés (APAE). Ceci étant un de plus anciens projets crées par l'UNISC depuis 1984 pretant service à plus de (trente) 30 élèves, porteurs des plus diverses pathologies.L'objectif du projet est de promouvoire des activités dans l'eau afin que les élèves augmentent leur répertoire d'attitudes dans l'eau et si possible em dehors de l'eau également. Cette recherche à pour but d'évaluer l'âge motrice des élèves participants du projet. Ont été soumis à cette évaluation 14 (quatorze) élèves des deux sexes. Des testes ont été appliqués avec l'Échelle de Développement Moteur (EDM). Les élèves ont été évalués en relation à leur âges motrices générales et dans chaque aspect spécifiques des tests: Fine motricité, Motricité Globale, Equilibre Schema Corporel/Rapidité, Organisation Spatiel et Langage/Organisation Temporal. Il a été observé que dans l'âge Motrice General la majorité des élèves ont 4 (quatre) ans; dans la Motrice Fine II a été constaté que la plupart des élèves ont l'âge de 2 (deux) ans au moins; concernant la motricité Globale une fraction des élèves ont 2 (deux) ans d'âge ou moins; en relation à l'Équilibre la motié des élèves ont âge motrice entre 2 (deux) ans ou moins; en ce qui concerne le Schema Corporel/rapidité le plugart des élèves ont l'âge motrice de 3 (trois) ans; Finalement, concernant le Langage/Organisation Temporel une portion des élèves ont l'âge motrice de deux (2) ans au moins et l'autre fraction ont l'âge motrice de 5 (cinq) ans. Ainsi, à la fin de cet étude on a conclu que selon les trouble neurolgiques et/ou physique les élèves ont rencontré diverses difficultés dans ces differents aspects.

Mots clés: Évaluation Motrice, Activités Aquatiques, Population de Transporteurs de Nécessités Spéciales

# EVALUACIÓN DE LA ESCALA DEL DESARROLLO MOTOR DE NIÑOS DEL PROYECTO PIRACEMA - "NATACIÓN PARA LOS PORTADORES DE NECESIDADES ESPECIALES".

El proyecto de natación para portadores de necesidades especiales (Piracema), es un trabajo común entre la Universidad de Santa Cruz do Sul (UNISC) y la Associación de Padres y Amigos de los Excepcionales (APAE). Es uno de los más antiguos proyectos creados por la UNISC y él ocurre desde 1984 atendiendo aproximadamente a 30 alumnos, con las más diversas patologías. El objetivo del proyecto es auspiciar actividades en el medio líquido de manera que los alumnos aumenten su repertório de aptitudes en el agua y cuando sea posible, afuera de ella también. Esta investigación tiene por objetivo evaluar la edad motora de los participantes del proyecto. Al total, 14 alumnos de ambos los sexos participaron de este estudio. Fueron aplicadas pruebas de Escala de Desenvolvimento Motor (EDM). Han sido avaluados conforme a las edades motoras generales y en cada uno de los aspectos específicos de las pruebas: Motricidad fina, Motricidad global, equilibrio, esquema corporal/rapidez, organización espacial y lenguaje/organización temporal. Se ha evidenciado en la edad motora general que la mayoría de los alumnos tiene 4 años; Com respecto a motricidad fina fue evaluado que parte de ellos tiene edad motora de 2 años o menos; En el aspecto de la motricidad global una fracción de los alumnos tiene 2 años de edad motora o menos; Con respecto al equilibrio, la mitad de los alumnos tiene edad evaluada en 2 años o menos; En lo se que refiere al esquema corporal/rapidez el porcentaje mayor de los alumnos tiene edad motora de 3 o 4 años; La prueba de organización espacial muestra que la mayor parte de ellos tiene edad motora de 3 años; Y por último, en la lenguaje/organización temporal la porción de los alumnos tiene edad motora de 2 años o menos y otra fracción tiene edad motora de 5 años. Por lo tanto, al final de este trabajo concluimos que conforme a las enfermedades neurológicas o físicas, los alumnos habían encontrado algunas dificultades en sus diversos aspectos.

Palabras-Clave: Evaluación del Motor, Actividades Acuáticas, Población de Portadores Especiales de Necesidades

## AVALIAÇÃO DE ESCALA DE DESENVOLVIMENTO MOTOR DE CRIANÇAS DO PROJETO PIRACEMA - "NATAÇÃO PARA PORTADORES DE NECESSIDADES ESPECIAIS".

O Projeto Natação para Portadores de Necessidades Especiais (Piracema), é uma pareceria entre a Universidade de Santa Cruz do Sul (UNISC) e Associação de Pais e Amigos dos Excepcionais (APAE). Trata-se de um dos mais antigos projetos criados pela UNISC e ele ocorre desde 1984 atendendo em torno de 30 alunos, com as mais diversas patologias. O objetivo do projeto é promover atividades no meio líquido de forma que os alunos aumentem seu repertório de atitudes na água e quando possível fora dela também. Essa pesquisa tem por objetivo avaliar a idade motora dos alunos participantes do projeto. Foram sujeitos desse estudo 14 alunos de ambos os sexos. Foi aplicado testes de Escala de Desenvolvimento Motor (EDM). Avaliou-se os alunos conforme suas idades motoras gerais e em cada um dos aspectos específicos dos testes: Motricidade Fina, Motricidade Global, Equilíbrio, Esquema Corporal/Rapidez, Organização Espacial e Linguagem/Organização Temporal. Constatou-se que na Idade Motora Geral a maioria dos alunos têm 4 anos; Sobre a Motricidade Fina foi-se avaliado que parte dos alunos tem idade motora de 2 anos ou menos; No aspecto da Motricidade Global uma fração dos alunos têm 2 anos de idade motora ou menos; Sobre o Equilíbrio metade dos alunos têm a idade motora avaliada em 2 anos ou menos; No que tange ao Esquema Corporal/Rapidez o maior percentual de alunos têm idade motora de 3 ou 4 anos; O teste de Organização Espacial mostra que grande parte dos alunos têm idade motora de 3 anos; E por fim, sobre a Linguagem/Organização Temporal uma porção dos alunos têm idade motora de 2 anos ou menos e outra fração têm idade motora de 3 ou 4 anos; E por fim, sobre a Linguagem/Organização Temporal uma porção dos alunos têm idade motora de 2 anos ou menos e outra fração têm idade motora de 5 anos. Portanto, ao final desse trabalho concluímos que conforme os transtornos neurológicos ou físicos os alunos encontraram várias dificuldades nos seus diferentes aspectos.

Palavras-Chave: Avaliação Motora, Atividades Aquáticas, População de Portadores de Necessidades Especiais.