

## 49 - THE DEVELOPMENT OF THE SOMATOMOTORAS VARIABLES IN THE "PIRACEMA PROJECT "SWIMMING FOR CARRIER OF SPECIAL NEEDS" PARTICIPANTS

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### Introduction

Currently the term inclusion has invaded the discussions surrounding the attitudes and practices for people with special needs. A society less discriminatory and more welcoming has been the center of the speeches more optimistic, we can note that with the globalization of the societies and its devastating impact, the individualistic concepts of superiority and suppression begin to show signs of decline in contrast to the personal codes, or the redemption of the basic values of self expression of the species. With this, the inclusion of people with disabilities seems to be in evidence.

Analyzing the educational legislation, we can see that the Law of Guidelines and Bases LDB - nº 9394/96 - 20/12/96 gives evidence of the expansion of the process of integration of people with special needs, in your paragraph 2, Article 58 provides that "The service will be done in educational classes, schools or specialized services because the specific conditions of the students" (SAMULSKI, 2003). The project Piracema-Swimming for Carriers of Special Needs "come to meet this request and has the objective to provide to the people with Special Needs an opportunity to develop experience in the water and with water as a means of promoting its development as human being, contributing to the process of inclusion. Classes are realized Mondays, Wednesdays and Fridays in pedagogical pools of the University of Santa Cruz do Sul. Students are divided into two classes, in the first class are more independent and have a practice facility for the swim, as the second class pupils are accompanied by parents or some responsible. Pedagogical aquatic Interventions make a time of 60 minutes, where swimming, move themselves, and enjoy playing in the water. This project is being developed in partnership with DEDFIS / UNISC (Department of Physical Education and Health / University of Santa Cruz do Sul) and Association of Parents and Friends of the people with special needs (APAE / Santa Cruz do Sul), which enables the customers of our community conditions of equality, as access to aquatic activities, and being very important for both institutions, coming to meet the social and community objectives of the UNISC.

According Oliveira and Malta (2005), we can say that the swimming practiced as an activity on a regular and continuous, contributing as one of the particularly important factors in the aspect of developing and maintaining the health of its fans. The swimming, through its beneficial stimulus contributes to the formation of a strong heart and economy blood flow, the breathing if it is done correctly can contribute to prevention and treatment of the respiratory system, and heart and circulatory system. To adapt to anyone to the liquid ambient, we must take into account some aspects: the engine, the psychological and physiological, considering their positive or negative previous experience. The adaptation is so exciting, leading the deficient to discover the water, feel they can keep in touch with the water, making recreational activities which promote recreation as a way of learning, through recreational activities, the people with special needs found the motivation necessary to participate of the community, to produce, to work and to assume roles of leadership in the community.

The aquatic activities according Englert (1992), provide numerous benefits for people with special needs, in the neuromuscular aspects, interpretation, social and emotional. An improvement in the organic aspect of the individual is the increase of the circulation due to physical activity; This process of circulation contributes to the healing process because it prevents congestion of the vessels. Helping in the process of healing the swim increases the possibility of a few moves to become normal or facilitators at least. Neuromuscular aspects seek the opportunities for the development of perceptual-motor child. Even from the interpretative point of view, we can approach a relationship of our own body. During the aquatic activity, the interaction with other people is beneficial to the carrier of special needs because develops its ability to deal with others.

The activities in the water leading the carrier of special needs to perform movements and / or postures often impossible on the ground that contribute to the structuring of the body image. The water causes a pre-disposition to the exercise, not just the musculature, but of the whole person, which surprises with its ability to perform movements. The water offers opportunities for personal interaction, achievement, success and a self-esteem increasing; Experiences of the concepts of perceptual intensity, speed and spatial orientation; Improving the ability of the cardiovascular and physiological functions in general; And yet the pleasure and the joy of being and playing in the water (ZUCHETTO, 1995).

A series of tests whose implementation is possible in the people with special needs is still limited by the lack of research and data, as these were developed in people with had no special needs. Initiatives towards implementation of a set of this seem to be important. The tests are used to classify, judge, estimate and interpret a set of information obtained through this measures. Many individuals have disabilities and difficulties in the performance of basic motor skills due to deficient development in a certain physical capacity (GORLA, 1997).

This research have the general objective to verify the evolution of the individual indices in the somatomotor tests of the "Project Piracema: swimming for people with special needs" participants. From this, here are the specific objectives: apply three somatomotor tests among the battery proposed by PROESP-BR (2002), prescribe and monitor aquatic activities and implement the post-test, using the same protocols of the pre-testing.

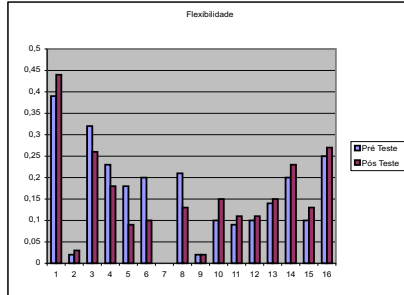
### Methodology

The subject of the study were, 16 people with special needs, participants in the Project Piracema 2006/2007, aged between 09 and 40 years. The subjects are carriers of different pathologies, with 06 (six) have moderate mental disabilities, 02 (two) have mielomeningocele, 01 (a) gives cerebral palsy pyramidal, 04 (four) severe mental disabilities, 01 (a) Syndrome down, 01 (a) type of cerebral palsy spastic left hemiparesis, 01 (a) with severe and deep mental disabilities, 01 hyperactivity (a) and 01 (a) autism. For collecting the data, were used three of the battery of tests proposed by Project Sports Brazil (PROESP-US, 2002), the Center for Sports Excellence (CENESP - UFRGS), being a concerning to the physical capacity fitness test related to the health of flexibility test - to sit and reach and the other two referring to the inferior members motor explosive performance -

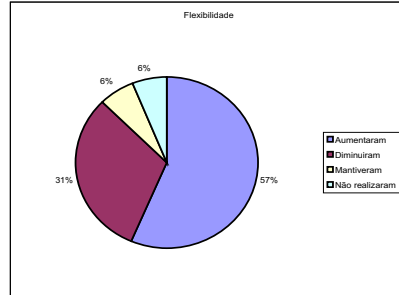
horizontal jump and explosive force of superior members- throwing the medicineball. Aquatic interventions were made in the pedagogical swimmingpools of the University of Santa Cruz do Sul, three times a week and with duration of 60 minutes per session. The subjects were divided into three classes respecting the limitations of each Carriers of Special Needs. After ten months of intervention through aquatic activities were conducted the post-tests.

**Results**

The results obtained in the test of flexibility (sit and reach), for sampling of the pre - and post-test were: 56,25% increased their index, 31,25% decreased their indices, 6,25% remained the same index of the pre-testing and 6,25% not performed the test. For Guedes and Guedes (1997), the sit and reach test is the technique most often described in the literature and is presented as an alternative with a great opportunity when we obtaine information related to the flexibility of children and adolescents. For Nieman (1999), the flexibility and range of the articular movement can be developed, using the static stretching exercises at least three sessions a week. The largest increases in flexibility were in age from 9-14 years. Between 15 to 17 years can still considerable successes in the training of flexibility including the holders of special needs. (Graphs 1 and 2).

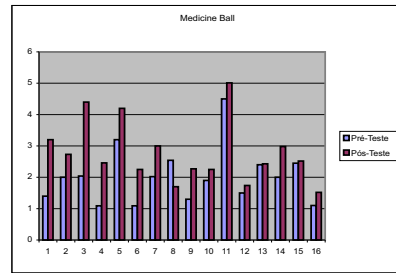


Graph 1 - Individual result of the pre and post test

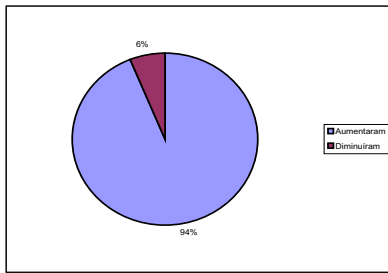


Graph 2 - Result of the test

The results obtained in the test of strength of explosive superior members-medicine ball, for sampling of pre - and post-test were as follows: 93,75% increased their indices, 6,25% decreased their indices, all participants realized the test. Nieman (1999) says to develop strength and muscular endurance, a minimum program of exercise should have two sessions a week, which should be conducted from 8 to 10 different exercises with weight, with 8 to 12 repetitions, working the major muscle groups. (Graphs 3 and 4)

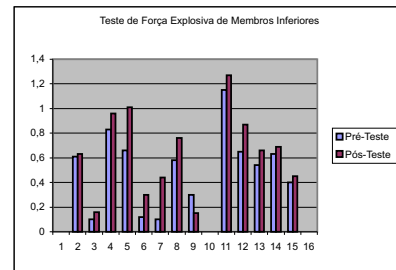


Graph 3 - Individual result of the pre and post test

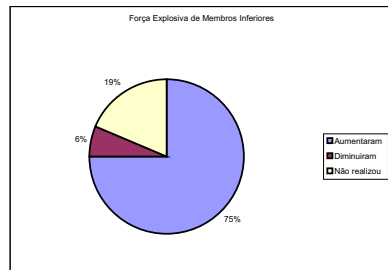


Graph 4 - Result of the test

The results obtained in the test of strength of explosive inferior members, showed that the horizontal jump on pre - and post-test their indices increased 75%, 6,25% decreased its rates and 18,75% of the participants evaluated failed to achieve the test due to his condition. According Lepore (2004), many people whose disability dificults his mobility on the floor, can act in an independent manner in the aquatic environment, without help from supports: crutches and walkers, due to the fluctuation that water provides. So this test, for many students, was not easy to implement, because the students should be standing and jumping as far as possible and many students can not even walk alone. (Graphs 5 and 6).



Graph 5 - Individual result of the pre and post test



Graph 6 - Result of the test

**Conclusion**

Regarding the study about the somatomotor profile of the participants of Project Piracema: swimming for people with special needs-UNISC - APAE of Santa Cruz do Sul - RS we note that through an intervention of fun-aquatic activities for a period of 10 months, there is a significant improvement in the participants evaluated. We can note a greater relevance in the medicine ball and horizontal jumping test, obtaining a very high index between the pre - and post-test. In the first shows that all participants have done the test with significant results, getting better rates between pre - and post-test. It is also considered that in the horizontal jump, the individuals improve their skills, but three of this can't complete the test because of thier condition. In the test of flexibility, it is observed that the individuals obtained a drop in interventions, where 31% of them decreased their indices. So, considering their problems and pathologies, the indexes are presented below the deemed Healthy Physical Fitness Zone (ZSApF) by PROESP-US.

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### **THE DEVELOPMENT OF THE SOMATOMOTORAS VARIABLES IN THE "PIRACEMA PROJECT - "SWIMMING FOR CARRIER OF SPECIAL NEEDS" PARTICIPANTS**

**ABSTRACT**

Introduction: The Piracema Project -Swimming for Carriers of Special Needs, is developed in partnership with the University of Santa Cruz do Sul - UNISC and Association of Parents and Friends of the people with special needs (APAE). It is an extension project of the university and acts since 1984, at the Pedagogical Pool of UNISC. To begin the project, individuals are subjected to a battery of tests, and after the aquatic intervention of 6 months, are conducted the post-tests. Objective: provide people with special needs an opportunity to develop experience in the water and with water as a means of promoting its development as a human being, contributing to the process of inclusion. Methodology: the study subjects were, 16 people with special needs, aged between 09 and 40 years. This battery of tests, they realized medicine ball throwing, horizontal jump and flexibility. Results: In the medicine ball test 93.75% increased their indexes, 6,25% decreases, all participants evaluated realized the test. On the test of horizontal jump, we note that in relation to the pre - and post-test their indices increased 75%, 6,25% decreased its rates and 18.75% of the evaluated participants failed to perform the test. In the test of flexibility, 56,25% increased its index, 31.25% decreased their indices, 6,25% maintained the same index of the pre-testing and 6,25% not performed the test. Conclusion: With regard to the study about the somatomotor profile of the Piracema Project participants we noted that through an intervention of fun-aquatic activities for a period of 6 months, we had a significant improvement in the participants evaluated. So, considering their problems and pathologies, the indexes are presented below the deemed Healthy Physical Fitness Zone (ZSApF)-by-PROESP-US.

KEYWORDS: PPNE, swimming, water intervention.

### **LE DÉVELOPPEMENT DES VARIABLES SOMATOMOTRICES DANS DES PARTICIPANTS DU PROJET PIRACEMA - NATATION POUR LES PORTEURS DES NÉCESSITÉS SPECIALES.**

**RESUMÉ**

Introduction: Le projet Piracema - Natation pour les porteurs de nécessités speciales, est développé en partenariat avec l'Université de Santa Cruz do Sul - UNISC et l' Association des Parents et Amis des Exceptionnels (APAE). C'est un projet d'extension de l'université depuis 1984, dans les établissements de la Piscine Pédagogique de l'UNISC. Au rentrer dans ce projet, les individus sont soumis à une batterie des tests, et après à une intervention aquatique de 6 mois, sont réalisés les après tests. Objectif: proportionner aux personnes Porteurs de Necessités Speciales la possibilité de développer des experiences dans l'eau et avec l'eau, comme moyen de promotion de leurs développement comme être humain, contribuent avec le processus d'inclusion. Méthode: ont été objects de cet étude, 16 porteurs de nécessités speciales, agés de 09 ans jusqu'à 40 ans. Dans cette batterie des tests, ceux appliqués ont été le renvoi de medicine ball avec 93,75% qui ont augmentés leurs indicateurs, 6,25% ont diminués, tous les participants évalués ont réalisés le test. En ce qui concerne le test du saut horizontal, on a vérifié qu'en relation au prè et post test 75% ont augmentés leurs indices, 6,25% ont diminué et 18,75% des participants évalués n'ont pas réussi le test. Dans le test de flexibilité 56,25% ont augmentés leurs indices, 31,25% l'ont diminués, 6,25% ont maintenu leurs mêmes indices d'avant test et 6,25% n'ont pas arrivés à realiser le test. Conclusion: concernant l'étude sur le profil somatomoteur des participants du Projet Piracema on s'aperçu qu'à travers une intervention des activités ludique-aquatiques pendant une période de six mois, on a obtenu une amélioration substantielle des participants évalués. Ainsi, en tenant compte de ses difficultés et patologies, les indices presentéssont au-dessous de celui consideré comme Zone Salulaire d'Aptitude Phisique (ZSApF) pour le PESP-BR.

MOTS CLÉS: PPNE, natation, intervention aquatique.

### **EL DESARROLLO DE LAS VARIABLES SOMATOMOTORAS EN PARTICIPANTES DEL PROYECTO PIRACEMA - NATACIÓN PARA PORTADORES DE NECESIDADES ESPECIALES.**

**RESUMEN**

Introducción: El proyecto Piracema - Natación para Portadores de Necesidades Especiales, es desarrollado en aparcería con la universidad de Santa Cruz del Sur, UNISC y Asociación de padres y amigos de los excepcionales (APAE). Es un proyecto extencionista de la universidad y actúa desde 1984, en las dependencias de la piscina pedagógica de la UNISC. Al iniciaren en el proyecto, los individuos son sometidos a una batería de testes y tras de la intervención acuática de 6 meses, son realizados los pos-testes. Objetivo: proporcionar a las personas portadores de necesidades especiales, la posibilidad de desarrollar experiencias en el agua y con el agua, como medio de promoción de su desarrollo como ser humano, contribuyendo con el proceso de inclusión. Método: fueron sujetos deste estudio 16 portadores de necesidades especiales, con edad entre 09 y 40 años. En esta batería de testes, los aplicados fueron lanzamientos de medicine ball, salto horizontal y flexibilidad. Resultados: en el teste de medicine ball el 93,75% aumentaron sus índices, el 6,25% disminuyeron sus índices y el 18,75% de los participantes evaluados no lograron realizar el teste. En relación al teste de salto horizontal, verificamos que en relación al pre y

pos-teste que el 75% aumentaron sus índices, el 6,25% disminuyeron sus índices y el 18,75% de los participantes evaluados no lograron realizar sus testes. En el teste de flexibilidad 56,25% aumentaron sus índices, el 31,25% disminuyeron sus índices, el 6,25% mantuvieron el mismo índice de la pre-testaje y el 6,25% no realizaron el teste. Conclusiones: con relación al estudio sobre el perfil somatomotor de los participantes del Proyecto Piracema percibimos que a través de una intervención de actividades lúdico-acuáticas por el período de 6 meses, se obtuvo una mejora significativa en los participantes evaluados. Por tanto, considerando sus dificultades y patologías, los índices presentados están abajo del considerado como Zona Saludable Aptitud Física (ZSApF) por el PROESP-BR.

PALABRAS-CLAVE: PPNE, natación, intervención acuática.

#### **O DESENVOLVIMENTO DAS VARIÁVEIS SOMATOMOTORAS EM PARTICIPANTES DO PROJETO PIRACEMA - "NATAÇÃO PARA PORTADORES DE NECESSIDADES ESPECIAIS".**

##### **RESUMO**

Introdução: O Projeto Piracema - Natação para Portadores de Necessidades Especiais, é desenvolvido em parceria com a Universidade de Santa Cruz do Sul - UNISC e Associação de Pais e Amigos dos Excepcionais (APAE). É um projeto extensionista da universidade e atua desde 1984, nas dependências da Piscina Pedagógica da UNISC. Ao iniciarem no projeto, os indivíduos são submetidos a uma bateria de testes, e após a intervenção aquática de 6 meses, são realizados os pós-testes. Objetivo: proporcionar às pessoas Portadoras de Necessidades Especiais a possibilidade de desenvolver experiências na água e com a água, como meio de promoção de seu desenvolvimento como ser humano, contribuindo com o processo de inclusão. Metodologia: foram sujeitos deste estudo, 16 portadores de necessidades especiais, com idade entre 09 e 40 anos. Nessa bateria de testes, os aplicados foram arremesso de medicine ball, salto horizontal e flexibilidade. Resultados: no teste de medicine ball 93,75% aumentaram seus índices, 6,25% diminuíram, todos participantes avaliados conseguiram realizar o teste. Em relação ao teste do salto horizontal, verificamos que em relação ao pré e pós-teste 75% aumentaram seus índices, 6,25% diminuíram seus índices e 18,75% dos participantes avaliados não conseguiram realizar o teste. No teste de flexibilidade, 56,25% aumentaram seu índice, 31,25% diminuíram seus índices, 6,25% mantiveram o mesmo índice da pré-testagem e 6,25% não realizaram o teste. Conclusão: com relação ao estudo sobre o perfil somatomotor dos participantes do Projeto Piracema percebemos, que através de uma intervenção de atividades lúdico-aquáticas pelo período de 6 meses, obteve-se uma melhora significativa nos participantes avaliados. Portanto, considerando suas dificuldades e patologias, os índices apresentados estão abaixo do considerado como Zona Saudável Aptidão Física (ZSApF) pelo PROESP-BR.

PALAVRAS-CHAVE: PPNE, natação, intervenção aquática.