

### **38 - THE INFLUENCE OF INTERVENTION AQUATIC WITH STUDENTS WITH INTELLECTUAL DISABILITIES PROJECT PARTICIPANTS PIRACEMA - ASSESSMENT AND CLASSIFICATION OF MOTOR DEVELOPMENT**

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#### **INTRODUCTION**

Social inclusion is a process by which society adapts to be able to include in their social systems generally, people with disabilities and, simultaneously, they are prepared to assume their roles in society. Social inclusion is a bilateral process in which people still excluded, and society seek, in partnership, to overcome problems, decide on solutions and effect the equalization of opportunities for everyone. To include all people, society should be adjusted based on the understanding that it is that needs to be able to meet the needs of its members. The development of people with disabilities should occur within the process of inclusion and not as a prerequisite for these people can be part of society, as if they needed to pay tickets to integrate into the community. As the concept of social inclusion wins fans worldwide, more and more physical education professionals who work in the fields of sport, tourism, leisure and recreation, are being called upon to face the challenge to include in their routine activities people with disabilities seeking clubs and local sports associations (SASSAKI, 2010).

It is in this context that Mauerberg - DeCastro (2005), says, "All students can benefit from receiving adapted physical activity in one or more areas of knowledge. All students can learn. All students are guaranteed their right to quality of life through physical activity that can increase your self-esteem and contributes to mental health. All students can receive instruction in sports, dance and water activities that meet the leisure time and contribute to an active lifestyle and healthy. All students must have a physical activity to ensure proper health and fitness for activities of daily living. "The adapted physical activity, associated with motor development, engages in offering services designed to facilitate the overall development of individuals with disabilities. These services are based on motor activities programs, games and structured exercises in the context of recreation, sport, dance, water activities and individualized physical activity, preferably in inclusive environments. In general, whatever the context of stimulation, the goal of adapted physical activity professional development is the teacher must predict whether participation in selected activities provide pleasure or not. Components pleasurable facilitate contact and positive interactions with others, reduce boredom and increase motivation. The activity should provide laughter, joy, emotional comfort, peace of mind.

The water activities can provide opening a completely new world for all people. However, for people with disabilities she has much more advantages. Disabled people delight in such a world, once considered unattainable because the reality of an aquatic environment is first the freedom and possibilities. The liquid medium can be considered a paradox, because while it may inhibit and intimidate many people, can also provide pleasures and achievements that no other activity can. Working in the aquatic environment presents a number of challenges and requires numerous precautions that relate to security and individual adaptation (BRITZKE, 2001).

Water can be used for physical and mental rehabilitation, physical conditioning, facilitation of sensory-motor development and perceptual-motor, relaxation, development of self-esteem, joy, artistic expression, recreation and competition. Water reduces the force of gravity reduces the risk of injury to joints and reduces the orthopedic impairments due to overload or spasticity own weight during exercise. The water, depending on the temperature, can reduce stress, tension and hyperactivity or increase the alert and feeling of well-being. The primary goals of aquatic activity are adapted promote wellness, improve self-esteem and self-confidence as well as promote the nerve. The liquid medium, provides individuals with numerous benefits such as disability rehabilitation and stimulation of paralyzed muscles, strengthening the muscles which aids in posture, pain relief, strength work without worrying about friction, perceptual-motor intervention, independent mobility, among other. With proper temperatures, the properties of water can also provide muscle relaxation, to decrease spasms, as well as the sense of well-being, self-esteem and joy. The water activities also contribute as a facilitator to teach and improve basic and fundamental movements needed for other activities of everyday life that often the student cannot perform in other environments (Mauerberg - DECASTRO, 2005).

Physical activities include adapted the model to change, adapt or modify any swimming style, game or activity to meet the needs of people with disabilities. The water activities aim to provide opportunities for all, using swimming, water recreational activities, the adaptation to the water, the didactic teaching, among others, to promote health, wellness and rehabilitation. Water Activities, has room for all the people who are in need of something else, and can be administered with the aim of rehabilitation and / or therapeutic, educational or recreational benefits that can meet the water activities are unique. With these activities, we can, while providing participants progress and development in physiological, psychological, social and cognitive. It is the job of being as a whole. The water activities are not intended to be the salvation of all the problems, but rather aim to provide better quality of life for all who immerse themselves in it (LABRONICI, 2000).

Increasingly observed the practice of water activities for people with disabilities, the pursuit of improving the quality of life in recent years has made a lot of people seek this practice, to stimulate their potential and possibilities towards their physical well-being and psychological. The Success of the highest points between the psychological benefits that can be found in water activities. People with disabilities experience a strong share of failure and frustrations that diminish their self-esteem. Through water, activities adapted this successful reality turns into an extremely relevant when compared to other activities (Mauerberg-DeCastro, 2005).

The Project Spawning - Swimming for Special Needs happens in partnership with the University of Santa Cruz do Sul (UNISC) and the Association of Parents and Friends of Exceptional Children (APAE) of the same city, serving more students with different pathologies since 1984. The project aims to provide people with disabilities recreation and good strategic, enabling increase their repertoire of attitudes and experience in the aquatic environment; opportune adaptations to the water, as well as learning the buoyancy and breath; develop facilities in social and affective ties, strengthening self-esteem and social communication; provide moments where students have to explore their movement patterns, expressing feelings, thoughts, desires, emotions and needs; know the limitations and capabilities of each student, working on aspects of motor, cognitive and affective; develop in people with disabilities greater independence; apply the tests of Motor Development Scale, of Rosa Neto.

This study was a descriptive exploratory, aimed to analyze the students' General Motor Age, through the Motor

Development Scale (EDM), Rosa Neto (2002), comparing the tests in November 2012 and May 2013.

### METHODOLOGY

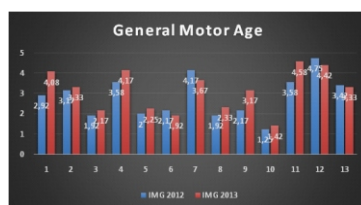
The research involved the participation of 13 students enrolled in APAE Santa Cruz do Sul Project Spawning and participants, aged between 12 and 46 years, 7 females and 6 males, divided into the following pathologies: Down Syndrome (4 students), microcephaly (1 student), Autism (1 student), Cerebral Palsy (3 students) and Intellectual Disabilities (4 students). Through Motor Development Scale were analyzed aspects of Fine Motor, Motricity Global, Equilibrium, Body Scheme, Organization Temporal and Spatial Organization, comparing the tests in November 2012 and May 2013. According to Rosa Neto (2002), the Motor Development Scale comprises diversified batteries and graduated difficulty. It is indicated for children with developmental delays, learning difficulties school, problems with speech, writing and arithmetic, neurological, mental and sensory.

The lessons of the project occur three times a week - Mondays, Wednesdays and Fridays - being met three classes per day lasting 50 minutes each class. For the analysis of statistical data, use the program Microsoft Excel 2013.

### RESULTS

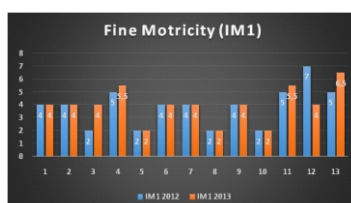
Based on the analysis made with the results we get, we realize that General Motor Age (IMG) of the students in the tests in November 2012, had as mean  $2.8 \pm 1.02$  years, and the tests in May 2013, the value was  $3.1 \pm 1.03$  years. Looking at Figure 1, which shows the comparison of each student researched, realized that 70% of students had a high motor age within the period of six months, and 30% had a small reduction in these values. According to Rosa Neto (2002), human movement is the interaction of various motor functions, coming home perceptual, neurological, psychomotor neuropsychomotor, etc., It is extremely important in the overall development of children.

Graph one - Comparison of IMG students, expressed in years.



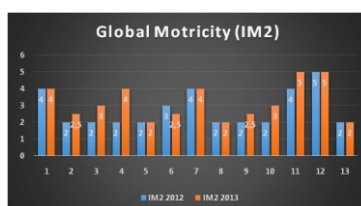
Looking at Figure 2, which shows the comparison of the Motor Age Fine Motor (IM1) students, we note that there was improvement between the mean ages whose test in November showed values of  $3.8 \pm 1.5$  years and the test May was  $3.9 \pm 1.3$  years. Regarding the whole group analyzed, can reveal that 61.5% of students maintained their results, 30.7% had improved their results in comparison and only one student (7.8%) decreased their values compared. The Fine Motor coordination is visuomanual, which represents the activity more frequent and common man, which acts to pick up an object and throw it, to write, draw, paint, cut, etc., And for coordination these acts, requires the involvement of different motor and sensory nerve centers (ROSANETO, 2002).

Graph two - Comparison of Fine Motor (IM1) students, expressed in years.



In relation to the data are shown in Figure 3, which shows the comparison of the Motor Age Global Kinetics (IM2) students, in the period between November 2012 and May 2013, we can assess that there was also gratifying improvements, where the average ages obtained were  $2.7 \pm 1.09$  years in the first test and  $3.1 \pm 1.09$  years in the second test. Based overall group, we can show that 46.1% of students had their motor higher ages, 46.1% maintained their ages and only one student (7.8%) had a slight decrease of the values. According to Rosa Neto, the Global Motricity, which is a child's ability, their gestures, their attitudes, their movements and their rhythm, is a factor that allows us to know them and understand them better than the words spoken by her (ROSA NETO, 2002). So the fact that the issue of developing movements since childhood, with special needs or not, is of paramount importance.

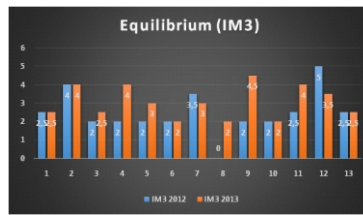
Graph three - Comparison of Global Motricity (IM2) students, expressed in years.



According to Figure 4, which shows the relationship of the Motor Age Balance (IM3) of students, we can analyze an improvement in mean motor age of students, increasing from  $2.4 \pm 1.1$  years in November to  $3.03 \pm 0.8$  years. Analyzing the total group, we can report that 38.5% of students maintained their motor ages, 46.1% increased their values and 15.4% decreased their results. According to Rosa Neto (2002), the balance is the fundamental basis of all action of different body segments. The

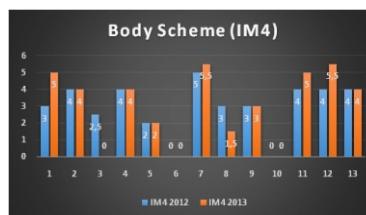
more the movement is defective, consumes more energy and this constant struggle against the imbalance, resulting in a body fatigue, mental and spiritual, increasing the level of stress, anxiety and anguish of the individual, even if unconscious.

Graph four - Comparison of Equilibrium (IM3) of the students, expressed in years.



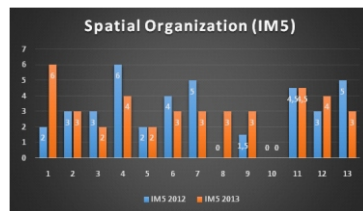
Based on the results of the battery of Body Scheme (IM4), presented in Figure 5, the motor age of students in November, had an average of  $2.9 \pm 1.5$  years, and in May 2013, the values were  $3,03 \pm 2.1$  years. When analyzing the whole group, arrive at the result that 53.8% of students maintained their results in comparison, 30.8% increased their age and 15.4% decreased their results. Body image is a form of balance. In a context of mutual relations of organism and environment is where it organizes the image of the body as the core of the personality (ROSANETO, 2002).

Graph five - Comparison of Body Scheme (IM4) students, expressed in years.



Looking at Figure 6, which shows the comparison of the Motor Age Space Organization (IM5) students, we can see that the first assessment in November, the average age of the motor was  $3 \pm 1.8$  years. In the second evaluation, conducted in May, the value obtained was  $3.1 \pm 1.4$  years. Evaluating the whole group, we can see that 30.8 % of students surveyed got motor age had increased, 30.8 % had maintained the same in comparison to 38.4 % reduced their values in the battery tender. According to Rosa Neto (2002), the notion of space is an ambivalent notion, while concrete and abstract, finite and infinite. Includes both the space of the body, directly accessible, as the space around us, finite as we are familiar, but which extends to infinity, the universe and fade in time. In this context, the fact that we perform interventions in water, and the tests are carried out on land, there may be changes in the Spatial Organization of students.

Figure six - Comparison of Spatial Organization (IM5) students, expressed in years.



The Motor Age Temporal Organization, battery last evaluated, shown in Figure 7, shows that the values of motor ages of students were  $2.1 \pm 1.4$  years on average, the test of November, and  $2.5 \pm 1.1$  years on average in the test in May 2013. In respect of the whole group, we found that 53.8% of the students raised their motor ages, 30.8% maintained their ages and 15.4% decreased their values compared. The temporal organization includes a logical dimension (knowledge of the order and duration of events) a conventional size (hours, days, weeks, months and years) and one aspect of living, which appears before the other two (perception and memory of succession and duration of events in the absence of logic elements or conventional) (ROSA NETO, 2002).

Graph seven - Comparison of Temporal Organization (IM6) students, expressed in years.



**CONCLUSION**

From the analysis made based on the results obtained, we conclude that there was an improvement in general in all aspects evaluated, since General Motor Age when the batteries separate. And also improves referred to the fact that students can keep their ages in comparison motor, and, when working with students with disabilities, expected for this type of population is

decreasing their values based on cognitive and motor. With the search result, accompanies the satisfaction of those involved with the students, who realize how important these interventions with the project participants. From these values, there were improvements in the planning of lessons so that we can continue to get positive results, or at least maintain what has been achieved.

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#### THE INFLUENCE OF INTERVENTION AQUATIC WITH STUDENTS WITH INTELLECTUAL DISABILITIES PROJECT PARTICIPANTS PIRACEMA -ASSESSMENT AND CLASSIFICATION OF MOTOR DEVELOPMENT

##### ABSTRACT

This search, of descriptive exploratory character, aimed to check and analyze the General Motor Age of students' participants of Piracema Project, through the Motor Development Scale. This search had the participation of 13 students enrolled on APAE and participants of project, of age between 12 and 46 years old, being 7 females and 6 males. The aspects analyzed was Fine Motricity, Global Motricity, Equilibrium, Body Scheme, Spatial Organization and Temporal Organization, comparing the tests of November of 2012 and May of 2013. From tests, the results that we obtained in relation to General Motor Age was that 70% had your ages high and 30% had a small reduction. In relation of Fine Motricity, 61,5% of students maintained their values, 30,8% high and just one student (7,7%) decreased. In the Global Motricity, of the total group, we obtained that 46,1% maintained their ages and 46,1% high, having just 7,8% decreased their values. Analyzing the battery of Equilibrium, 46,1% of students high your values, 38,5% maintained and 15,4% reduced your ages. In relation of Body Scheme, we obtained that 53,8% of students maintained their motor ages, 30,8% high and 15,4% reduced their values. From of group analyzed, on the battery of Spatial Organization, we obtained that 30,8% high your values and 30,8% maintained, having 38,5% of the students reduced their values. Lastly, the battery of Temporal Organization show that 53,8% of the students high their values, 30,8% maintained and 15,4% reduced. Based on analyzes made, we can conclude that there was an improvement in the average of all aspects analyzed.

**KEYWORDS:** Motor Development, People with Intellectual Disability, Water Activities.

#### L'INFLUENCE DE AQUATIQUE INTERVENTION AUPRES DES ELEVES AYANT UNE DEFICIENCE INTELLECTUELLE PARTICIPANTS PROJET PIRACEMA: ÉVALUATION ET CLASSEMENT DES MOTEURS DE DÉVELOPPEMENT

##### RÉSUMÉ

Cette étude est une exploratoire descriptive, visant à vérifier et à analyser l'âge des élèves participants générale frai de projet du moteur par moteur développement à grande échelle. Cette étude a eu la participation de 13 étudiants inscrits dans APAE participants et des projets, âgés entre 12 et 46 ans, 7 femmes et 6 hommes. Aspects ont été analysés motricité fine, motricité globale Scheme Body Balance, organisation temporelle et spatiale Organisation, en comparant les essais en Novembre 2012 et mai 2013. D'après les tests, les résultats que nous obtenons par rapport au moteur Age générale était que leurs âges étaient de 70 % et le moteur 30% plus élevé eu une petite réduction. En ce qui concerne motricité fine, 61,5% des étudiants ont maintenu leurs valeurs, ont augmenté de 30,8% et un seul étudiant (7,7 %) ont diminué. En cinétique globale, l'ensemble du groupe, nous avons constaté que 46,1 % ont maintenu leur âge et a augmenté de 46,1%, avec seulement 7,8 % des étudiants ont diminué leurs valeurs. Analyse de l'équilibre de la batterie, 46,1 % des étudiants ont augmenté leurs valeurs, 38,5% et 15,4 % avaient réduit leurs âges. En ce qui concerne le schéma du corps, nous avons constaté que 53,8 % des étudiants ont maintenu leurs âges moteur, une augmentation de 30,8% et 15,4 % ont diminué leurs valeurs. Dans le groupe analysé, l'organisation de l'espace batterie, nous avons trouvé que leur valeur a augmenté de 30,8% et 30,8 % maintenues, avec 38,5% des élèves ont diminué leurs valeurs. Enfin, l'organisation temporelle batterie a montré que 53,8 % des étudiants ont levé leurs valeurs, 30,8% et 15,4 % sont restés réduite. Basé sur les analyses, nous pouvons conclure qu'il ya eu une amélioration dans la moyenne de tous les aspects analysés.

**MOTS-CLÉS:** développement moteur, de personnes handicapées mentales, les activités nautiques.

#### LA INFLUENCIA DE AQUATIC INTERVENCIÓN CON ALUMNOS CON DISCAPACIDAD INTELLECTUAL PARTICIPANTES DEL PROYECTO PIRACEMA: EVALUACIÓN Y CLASIFICACIÓN DE MOTOR DE DESARROLLO

##### RESUMEN

Este estudio fue exploratorio descriptivo, con objetivo de verificar y analizar la edad de los estudiantes que participan general desove Proyecto Motor de Desarrollo a Escala. Este estudio contó con participación de 13 alumnos matriculados en APAE y participantes del proyecto, de entre 12 y 46 años, 7 mujeres y 6 hombres. Se analizaron aspectos Motor Fino, Motricidad Esquema, Global Body Balance, la organización temporal y espacial, la comparación de las pruebas en noviembre de 2012 y mayo de 2013. A partir de las pruebas, los resultados que obtenemos en relación con Motor edad general fue que sus edades eran de 70 % y un motor 30 % más alto tenía una pequeña reducción. Respecto Fine Motor, 61,5% de estudiantes mantuvo sus valores, el aumento de 30,8% y sólo un estudiante (7,7%) disminuyó. En Cinética globales, el grupo total, se encontró que el 46,1% mantuvo su edad y el aumento de 46,1%, con sólo el 7,8% de los estudiantes disminuyó sus valores. Analizando el balance de la batería, 46,1% de los estudiantes aumentó sus valores, el 38,5% y el 15,4% había reducido sus edades. En cuanto esquema corporal, se encontró que 53,8% de los estudiantes mantuvieron sus edades motor, aumentamos el 30,8% y el 15,4% disminuyeron sus valores. Desde el grupo analizado, la Organización Espacial de batería, se encontró que sus valores se

incrementaron un 30,8% y el 30,8% mantuvieron, con el 38,5% de los estudiantes disminuyó sus valores. Por último, la Organización Temporal batería mostró que el 53,8% de los estudiantes levantó sus valores, el 30,8% y el 15,4% se mantuvo reducido. En base a los análisis, se concluye que se produjo una mejora en el promedio de todos los aspectos analizados.

**PALABRAS CLAVE:** Desarrollo Motor, Personas con Discapacidad Intelectual, Actividades acuáticas.

#### **A INFLUÊNCIA DE INTERVENÇÕES AQUÁTICAS COM OS ALUNOS COM DEFICIÊNCIA INTELECTUAL PARTICIPANTES DO PROJETO PIRACEMA – UMA ANÁLISE FEITA ATRAVÉS DA ESCALA DE DESENVOLVIMENTO MOTOR**

##### **RESUMO**

Este estudo, de caráter descritivo exploratório, teve como objetivo principal verificar e analisar a Idade Motora Geral dos alunos participantes do Projeto Piracema, através da Escala de Desenvolvimento Motor. Esta pesquisa teve a participação de 13 alunos matriculados na APAE e participantes do projeto, de idades entre 12 e 46 anos, sendo 7 do sexo feminino e 6 do sexo masculino. Os aspectos analisados foram Motricidade Fina, Motricidade Global, Equilíbrio, Esquema Corporal, Organização Espacial e Organização Temporal, comparando os testes de novembro de 2012 e maio de 2013. A partir dos testes, os resultados obtidos em relação à Idade Motora Geral foi que 70% tiveram suas idades elevadas e 30% tiveram uma pequena redução. Em relação à Motricidade Fina, 61,5% dos alunos mantiveram seus valores, 30,8% aumentaram e apenas um aluno (7,7%) diminuiu. Na Motricidade Global, do grupo total, obtivemos que 46,1% mantiveram suas idades e 46,1% aumentaram, tendo apenas 7,8% dos alunos diminuído seus valores. Ao analisarmos a bateria de Equilíbrio, 46,1% dos alunos elevaram seus valores, 38,5% mantiveram e 15,4% reduziram suas idades. Em relação ao Esquema Corporal, obtivemos que 53,8% dos alunos mantiveram suas idades motoras, 30,8% elevaram e 15,4% diminuíram seus valores. A partir do grupo analisado, na bateria de Organização Espacial, obtivemos que 30,8% aumentaram seus valores e 30,8% mantiveram, tendo 38,5% dos alunos diminuíram seus valores. Por último, a bateria de Organização Temporal mostrou que 53,8% dos alunos elevaram seus valores, 30,8% mantiveram e 15,4% reduziram. Com base nas análises feitas, podemos concluir que houve melhora na média de todos os aspectos analisados.

**PALAVRAS-CHAVES:** Desenvolvimento Motor, Pessoas com Deficiência Intelectual, Atividades Aquáticas.