# 89 - ENGAGEMENT OF A CHILD WITH CEREBRAL PALSY IN A MOTOR ACTIVITY ADAPTED PROGRAM

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## 1 INTRODUCTION

The regular practice of physical activity assumes an important role in the overall development of children and are increasingly evident in the population with disabilities (RIMMER, 2001; MAHER et al., 2007). Such importance is attributed to the numerous benefits biological, psychological and social factors that regular physical activity to provide its practitioners (FRANÇA; ZUCHETTO, 2003; BLOCK; OBRUSNIKOVA, 2007; MAHER ET AL., 2007; ZUCHETTO, 2008).

The literature reports that young people with disabilities tend to be less physically active and more susceptible to sedentary lifestyle than their peers without disabilities, although they are included in the classes, do not get the same amount of physical activity (WHITT-GLOVER, O'NEILL; STETTLER, 2006; RIMMER; ROWLAND; YAMAKI , 2007).

In this respect, people with disabilities suffer greater restrictions on participation in physical activities than their peers without disabilities (LAW et al., 2006; VOORMAN et al., 2010). The functional and structural alterations of the body are associated with these limitations and, therefore, people with disabilities must maintain fitness levels higher than the general population in order to compensate for the existing structural and functional decline (RIMMER, 2001, MORRIS et al., 2006). It is noteworthy that physical activity should be appropriate to the scope of its practitioners so that they propitiate the benefits desired (FRANÇA; ZUCHETTO, 2003; ZUCHETTO, 2008; SCHMITT et al., 2011).

Currently, it's recommended for 30 to 60 minutes of moderate physical activity on most days of the week (WHITT-GLOVER, O'NEILL; STETTLER, 2006). Therefore, to optimize time management and planning in advance classes may provide greater engagement of children in activities (SCHMITT et al., 2011).

Based on these considerations, this research had the objective to analyze for three consecutive years the time commitment of a child with cerebral palsy in the activities of Motor Activity Adapted Program.

## 2 METHODOLOGY

### 2.1 Type of research

This research, characterized as a descriptive case study, qualitative and longitudinal, was approved by the Ethics Committee of the University established the program, under case number 911/10. Those responsible for the participant signed the Consent Form.

### 2.2 Participant

The participant's choice was intentional, because it's a male child with ataxic cerebral palsy, originating in the prenatal period, 11 years old, a frequent participant at the Motor Activity Adapted Program - AMA/CDS/UFSC.

As for the commitment, the child presents triplegia, moves by itself using wheelchair. Not speak, but points to indicate their interests and observes the happenings around him. It communicates through facial expressions such as a smile. The local of injury in the brain also committed to hearing and cognition.

### 2.3 Context of the study

The AMA is offered by the Department of Physical Education of the Federal University of Santa Catarina since 1995 (DEF/UFSC). The goal of the program is related to the triad: teaching- research-extension. It also provides motor activities adapted in soil and water, to people with disabilities (extension), providing opportunities for practical experiences to undergraduate students of Physical Education (teaching/training), and conducts studies in this area (research). The activities occur in two weekly meetings, with an average duration of 2 hours, one in soil and the other in water (ZUCHETTO, 2008).

Were intentionally selected six classes occurring in the soil, one class per semester for three consecutive years. The prerequisites for the selection of the class were: a) the student was present, b) there was an adult for each disabled child in this school (proportion considered ideal in the program); c) that the ministering managed and optimized the class times, including a reduction in the transition periods between activities.

### 2.4 Data collection

In order to collect data, the classes were previously planned and then taught. All classes are recorded and allow the creation of a database containing information of the class plan was implemented, for example, names of participants, description and duration of the activities developed in the classroom.

From these shots, it's possible to record cursive, descriptive analysis minute-by-minute, so check student's engagement time. Resorts to Frame 1 to describe the modalities of time exposed by array analysis used by Richardson (1997).

### 2.5 Data analysis

Data were analyzed descriptively, appropriating qualitative and quantitative methods, considering filming the classes and records cursive.

Frame 1 - Description of the modalities of time.

| Modalities | Description |
|---|---|
| Total time class | amount of time the teacher actually spends on the subject, task or activity. |
| Transition time | interval between the activities, including the duration it took to get to class (arrival, the organization of the class and e xplain the first activity), change of activity (organization, explanation and demonstration of the task) and at the end of the lesson, farewell, when to greet returning to their homes. |
| Activity time | resulting from the reduction of the total time of the class with the transition time (T. total classroom - T. Transition T. = active). |
| Occupation time | amount of time students actually spend in an activity (also called time on task). It is measured in terms of the time out task, or the task. If a teacher gives students time to solve math problems in place and the student is working on these problems, the behavior of the student is on task. Otherwise, if the student scribbles or talk football with another student, the behavior is counted as off-task. |
| Waste time | time in which the student fails to perform the proposed activity because it distracts performing other actions not requested by the teacher. |

Legend: T. – time.

**RESULTS AND DISCUSSION**

From the analysis of the classes during three years, showed that the total time of the classes was: Semester I – 49 minutes and 44 seconds, Semester II – 51 minutes and 59 seconds; Semester III – 43 minutes; Semester IV – 41 minutes and 15 seconds; Semester V – 48 minutes and 58 seconds, and Semester VI – 49 minutes and 47 seconds. The duration time of the classes ranged between the semesters, and the total times larger classes with class occurred in Semesters VI and I, respectively. In Table 1 are shown the times of arrival/departure times of transition and the time allotted for the activities.

Table 1 –Times of classes during the semesters analyzed.

| | Time arrival/departure | % | Transition time | % | Activity time | % |
|---|---|---|---|---|---|---|
| Semester I | 03 min 45 sec | 7,5 | 03 min 11 sec | 6,4 | 42 min 48 sec | 86,1 |
| Semester II | 05 min 38 sec | 10,8 | 09 min 33 sec | 18,4 | 36 min 48 sec | 70,8 |
| Semester III | 00 min 00 sec | 0,0 | 09 min 02 sec | 21,0 | 33 min 58 sec | 79,0 |
| Semester IV | 00 min 31 sec | 1,3 | 06 min 35 sec | 16,0 | 34 min 09 sec | 82,8 |
| Semester V | 03 min 14 sec | 6,6 | 04 min 52 sec | 9,9 | 40 min 52 sec | 83,5 |
| Semester VI | 02 min 40 sec | 5,4 | 09 min 02 sec | 18,1 | 38 min 05 sec | 76,5 |

Legend: min – minutes; sec – seconds

Emphasizes that institutions education define class time (CARNIEL; TOIGO, 2003; KIM, 2005). Therefore, the greatest difference observed in the total time the class was about 10 minutes and is justified on the grounds of waiting and ministering and the program so that students came to class.

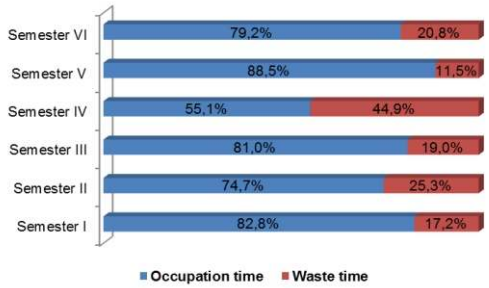
The activity time also fluctuated, with the Semester III had lower activity time and Semester I with greater activity time. Parallel to activity time, is the transition time which, in turn, was lower in Semester I and higher in Semesters II, III and VI (Table 1).

Transition times are closely related to the activity time. Time management is the responsibility of the teacher and, through good management the student may have higher achievement (PIÉRON, 1999; SILVA, 2004). Thus, optimizing the time of class and lower transition moments are essential for students to enjoy more time practicing tasks (SCHMITT et al., 2011). After all, learning is directly influenced by the amount of time spent on practical activities (MAGILL, 2000).

It is noteworthy that the Semester III class – which featured shorter activities time – was one of the classes with larger transition time and to the same extent, the class of Semester I – which featured greater activities time – stood out positively it has faster transition, indicating the close relationship between the transition time and the time to good use for the activity class (Table 1).

It is noted that, during the activity time, the child may be in occupation performing activities or be wasteful not to perform the tasks proposed. The times of student engagement in activities during the six classes analyzed are shown in Figure 1.

Figure 1 - Time of student engagement in classes during the semesters analyzed.




In class of Semester V the children had higher occupancy time (88.5%), when compared to other classes analyzed. In contrast, in class of Semester IV resulted in longer in waste time (44.9%) (Figure 1).

The child remained in occupation because it received aid to carry out activities or participated by observation, reveling in musical activities mainly to see their peers perform the activities, especially in class II Semester. Also smiled and clapped his hands several times, showing excitement about the proposed task. In addition, he received help from adults to engage in activities and also interacted with his colleagues. The fact that academic aid it and make the necessary adjustments to each activity, its possible participation in class.

It is noteworthy that during class analyzed the motor benefits obtained from the regular practice of physical activity have become much more visible. The child began to understand the tasks faster through observation, began to express their wishes because they learned to point to places and people with whom he would be, touches his wheelchair more frequently and easily. Thus, won greater independence to engage in the proposed activities, participating by observation when not receiving aid, amused to see their colleagues performing the tasks and learning from these statements. The student who does not listen passes to imitate their peers and thereby assimilates the content explored in the classroom. Therefore, any explanation must be followed by demonstration (SHERRIL, 2004).

The reasons for the wasting time were different between semesters analyzed, common delay for receiving aid or not receiving aid to engage in activities, poor planning of the lesson by the ministering that interrupted execution activity for lack of material or because the proposed activities were not consistent with the personal attributes of the child and its possibilities , the child's inattention to what was proposed , difficulty of academics in recognizing which aid should be provided to the child or difficulties in handling the child during activities that requested standing posture .

**CONCLUSION**

During the three years analyzed, outweighs the evolution of the student. In the first half the professionals needed to meet him, so identifying his possibilities. As professionals learned how to work with the student, it was possible to assist him with higher quality in order to make it perform the tasks proposed by ministering. From the moment that we know the child and its development phase, the adjustments are provided more efficiently enabling greater time engagement of the child's activities.

It clarifies the important role of educators who should plan lessons in advance so that the class does not result in a set of activities unrelated itself. Thus, there is greater ease in optimizing the times of classes, and also assists in the organization of the materials needed, reducing the transition periods. Also it is the educator develop activities that foster the development of the child and also respect their stages of development, ensuring their participation.

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**ENGAGEMENT OF A CHILD WITH CEREBRAL PALSY IN A ADAPTED MOTOR ACTIVITY PROGRAM**

**ABSTRACT**

The objective of this research was to analyze for three consecutive years the time commitment of a child with cerebral palsy in the activities of a program of Adapted Motor Activity. This research, characterized as descriptive case study and qualitative, hade the participation of a child with ataxic cerebral palsy and with 11 years old at baseline. In order to collect data, was selected classes occurred during six semesters (two semesters per year). The prerequisites for the selection of the classes

were that the student was present and there was an adult for each disabled child. After selecting classes, it was performed a cursive record allowing to identify the times of classes (total, transition and activities) and times of student engagement (in occupation and waste ). The difference between the total class time was approximately 10 minutes. The times of arrival/departure, transition and activity varied during the six classes analyzed. The class of Semester III showed large intervals of transition (09 minutes 02 seconds) and therefore had less time at activities (33 minutes 58 seconds). This shows the relationship between the transition time with time in activity. In class of Semester III, the child remained in occupation for 88,5% of activity time, while in Semester IV presented more time in waste (44,9%). Throughout the classes analyzed, it became clear evolution of the student, although his time of engagement have not consistently increase linearly. Because it is classes, daily there are changes in the context as regards children and adults, activities planning and classroom organization that act as factors that can influence the engagement time of the child.

**KEYWORDS:** Adapted motor activity, Engagement time, Cerebral palsy.

**L'ENGAGEMENT D'UN ENFANT ATTEINT DE PARALYSIE CÉRÉBRALE CHEZ UN PROGRAMME D'ACTIVITÉ MOTEUR ADAPTÉ**

**RÉSUMÉ:**

L'objectif de cette recherche était d'analyser pendant trois années consécutives, l'engagement de temps d'un enfant atteint de paralysie cérébrale dans les activités d'un Programme D'activité Motrice Adaptée. Cette recherche a caractérisé comme étude de cas descriptive et qualitative avec la participation d'un enfant atteint de paralysie cérébrale ataxique et 11 ans à l'inclusion. Pour la collecte des données, nous avons sélectionné classes dans le sol survenus pendant six semestres (deux semestres par an). Les conditions requises pour la sélection des leçons étaient que l'élève était présent et il y avait un adulte pour chaque enfant handicapé. Après avoir sélectionné les classes, détient le record cursive, ce qui permet d'identifier les périodes de cours (activités de transition au total) et les délais d'engagement des élèves (en occupation et déchets). La différence entre le temps de classe totale était d'environ 10 minutes. Les heures d'arrivée/départ, la transition et l'activité variait durantes les six catégories analysées. Le semestre III classe a montré de grands intervalles de transition (09 minutes 02 la deuxième) et donc eu moins de temps au travail (33 minutes 58 la deuxième). Cela montre la relation entre le temps de transition avec une disponibilité. Au semestre classe III, l'enfant est resté dans l'occupation de 88,5% de disponibilité, tout en Semestre IV a donné lieu à plus de déchets (44,9%). Tout au long des leçons analysées, il est devenu clair évolution de l'élève, même si son temps d'engagement n'ont pas toujours augmenter linéairement. Parce que c'est les classes, tous les jours pas de changement de contexte en ce qui concerne les enfants et les universitaires présents, la planification des activités et de l'organisation de classe qui agissent comme des facteurs qui peuvent influer sur la durée de l'engagement de l'enfant.

**MOTS-CLÉS**: activité motrice adaptée, le temps de l'engagement, de la paralysie cérébrale.

**ENVOLVIMIENTO DE UN NIÑO CON PARÁLISIS CEREBRAL EN UN PROGRAMA DE ACTIVIDAD MOTORA ADAPTADA.**

**RESUMEN**

El objetivo de esta investigación fue analizar durante tres años consecutivos, el tiempo de dedicación de un niño con parálisis cerebral en las actividades de un programa de actividades Motora Adaptada (AMA). Esta investigación se caracteriza como estudio de caso descriptivo y cualitativo con la participación de un niño con parálisis cerebral atáxica y 11 años de edad al inicio del estudio. Para la recolección de datos, fueron seleccionadas seis (6) clases que ocurrieron durante seis semestres. Los requisitos previos para la selección de las clases eran que el estudiante estuviera presente y hubiera un adulto por cada niño con una discapacidad. Después de seleccionar las clases, se realizo el registro cursivo, lo que permitió identificar el tiempo de clases (total, actividades y transición) y el tiempo de envolvimiento de los estudiantes (en ocupación y de desperdicio). La diferencia entre el tiempo total de las clases fue de aproximadamente 10 minutos. El tiempo de entrada / salida, transición y en la actividad varió durante las seis clases analizadas. La clase del tercero semestre presentó grandes intervalos de transición (09 min. 02 s.) y por lo tanto tenían menos tiempo en actividad (33 min. 58 s.). Esto demuestra la relación entre el tiempo de transición con el tiempo de actividad. En la clase del tercero semestre, el niño permaneció en ocupación el 88.5% del tiempo de actividad, mientras que en el cuarto semestre presentó un mayor tiempo de desperdicio (44,9 %). A lo largo de las clases analizadas, quedo nítida la evolución del alumno, aunque el tiempo de la participación no ha sido constante de forma linear. Por tratarse de clases, todos los días hay cambios en el contexto en relación a los niños y académicos presentes, la planificación de las actividades y la organización de las clases que actúan como factores que pueden influir en el tiempo de envolvimiento del niño.

**PALABRAS CLAVE:** Actividad motor adaptado, tiempo de compromiso, la parálisis cerebral.

**ENGAJAMENTO DE UMA CRIANÇA COM PARALISIA CEREBRAL EM UM PROGRAMA DE ATIVIDADE MOTORA ADAPTADA**

**RESUMO**

O objetivo desta pesquisa foi analisar durante três anos consecutivos, o tempo de engajamento de uma criança com paralisia cerebral nas atividades de um programa de Atividade Motora Adaptada. Esta pesquisa caracterizada como estudo de caso descritivo e qualitativo contou com a participação de uma criança com paralisia cerebral atáxica e com 11 anos de idade no início da pesquisa. Para coleta de dados, selecionaram-se aulas ocorridas no solo durante seis semestres (dois semestres por ano). Os pré-requisitos para a seleção das aulas foram que o aluno estivesse presente e que houvesse um adulto para cada criança com deficiência. Após a seleção das aulas, realizou-se o registro cursivo, possibilitando identificar os tempos das aulas (total, transição, atividades) e os tempos de engajamento do aluno (em ocupação e em desperdício). A diferença entre os tempos total das aulas foi aproximadamente 10 minutos. Os tempos de chegada/saída, transição e em atividade variaram durantes as seis aulas analisadas. A aula do Semestre III apresentou grandes intervalos de tempo de transição (09 min 02 seg) e, por conseguinte apresentou menor tempo em atividade (33 min 58 seg). Isso demonstra a relação entre o tempo de transição com o tempo em atividade. Na aula do Semestre III, a criança permaneceu em ocupação durante 88,5% do tempo em atividade, enquanto no Semestre IV apresentou maior tempo em desperdício (44,9%). Ao longo das aulas analisadas, ficou nítida a evolução do aluno, apesar de seu tempo de engajamento não ter aumento constantemente de forma linear. Por se tratar de aulas, diariamente há alteração no contexto no que se refere as crianças e acadêmicos presentes, planejamento das atividades e organização da aula que atuam como fatores que podem influenciar no tempo de engajamento da criança.

**PALAVRAS-CHAVES:** Atividade Motora Adaptada, Tempo de Engajamento, Paralisia Cerebral.