39 - HALLIWICK CONCEPT AND ENGAGEMENT OF CHILDREN WITH DISABILITIES

BEATRIZ DITTRICH SCHMITT;
GIANDRA ANCESKI BATAGLION;
ANGELA TERESINHA ZUCHETTO;
JOHN PETER NASSER
UNIVERSIDADE FEDERAL DE SANTA CATARINA, FLORIANÓPOLIS, SANTA CATARINA, BRASIL.
beatriz_bds@hotmail.com
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INTRODUCTION

The aquatic environment is an excellent way to achieve maximum levels of exercise in people with or without disabilities (NOH et al., 2008). For children with disabilities, participation in physical activities generally favor their development, being one of the swimming sports that offers more benefits (ARAUJO; SOUZA, 2009). The numerous benefits of swimming for people with disabilities are: a reeducation and stimulation of paralyzed muscles, strengthening the muscles which aids in postural control, pain relief, the work force without friction, the independent mobility that can be transferred out of the water (GOLDBY; SCOTT, 1993).

Among the different approaches to the teaching of swimming, regarding persons with disabilities, there is the "concept Halliwick". It is defined as "an approach to teaching all people, particularly those with physical and/or learning difficulties, water activities, independent movement in the water and to swim" (IHA, 2014). This concept has influenced the traditional teaching swimming and hydrotherapy techniques (GRESSWELL et al., 2010).

The Halliwick uses the natural progression the kind of human acquire physical movements, and this skills were divided in various activities in a sequential order regarding motor skill acquisition in children (CHU; PAN, 2012). The main objectives of the concept are breath control, balance and the freedom of movement (GARCIA et al., 2012).

The concept uses a structured process of learning, called "Ten Point Program", allows a person without water experience make progress to acquire independence in the water. Halliwick concept advocated by, a person with no experience in the water can progress to independence in the water.

Through this program swimmers gradually get better breath control, balance and movement becomes more confident in the water and experience increased freedom in the water. The ten points are: 1) mental adjustment; 2) disengagement; 3) transversal rotation control; 4) sagittal rotation control; 5) longitudinal rotation control; 6) combined rotation control; 7) upthrust; 8) balance in stillness; 9) turbulent gliding; 10) simple progression and basic swimming movement (GRESSWELL et al., 2010).

The objective of this research was to analyze the engagement time of children with disabilities in a class that uses the concept Halliwick.

METHODOLOGY

Type of research

This was a qualitative study and descriptive.

Participants

Participated five children with disabilities, two male (40%) and three females (60%) (Table 1). The children were invited to participate because they are regular participants in the AMA classes. Nine trained adult accompanied the children with disabilities because they do not presented independence in the aquatic environment.

Table 1 – Characteristics of children with disabilities.

Child	Sex	Age (years, months)	Disabilities	Kind
1	Female	3 years 10 months	Visual impairment	Low vision
2	Male	4 years 8 months	Visual impairment	Blindness
3	Female	6 years 2 months	Physical impairment	Cerebral palsy
4	Male	11 years 11 months	Physical impairment	Cerebral palsy
5	Female	9 years 0 months	Autism spectrum disordens	Autism

Data collection

This study was approved by the Ethics Committee of Human Research. The parents were informed and signed a Consent Form. Previously to data collection, a class was planned based on the concept Halliwick by a professional with previous experience. It was occurred in an adapted swimming pool which all participants were accustomed. The class was filmed. To data collection was used the method "cursive record" which describes all occurrences including dialogues in every minute of the class (ZUCHETTO, 2008).

Data analysis

The matrix developed by Richardson (1997) was used (Table 2 and 3).

Table 2 – Matrix of analysis (class time)

Class Time	Concept
Total classe time	It is the amount of time w hich the teacher actually spends on the subject, specific task or activity
Transition time	It is the interval between the activities, including the time it took to get to the class, change of activity and at the end of the class , the farewell
Activity time	It is the result of the decre ase the transition time of the total class time

Legend: T – Time.

Table 3 – Matrix of analysis (engagement time).

Engagement Time	Concept
Out of focus	It happens when the participant does not appear in the scenes footage
Occupation time	It is the amoun t of time which the students actually spend in an activity or task
Waste time	It happens when the participant stops to perform the proposed activity (performing actions not requested by the teacher)

RESULTS AND DISCUSSION

In this class, the total time was 37 minutes and 21 seconds long. During the ministration of the class, the teacher used four minutes and 49 seconds (12,9%) at the transitions periods from one activity to another, leaving 32 minutes and 32 seconds (87,1%) for the effective realization of the activities.

The activity time approaches of the time reported by Gomide Neto and colleagues (2011), which recommended 30 minutes duration per session with Halliwick concept focused for children with visual impairment. On the other hand, this total class time contradicts the amount of time used as AMA swimming classes, which uses 50 minutes. It is similar to the study of Meneghetti et al. (2009) who used the concept in sessions of 60 minutes.

From the observation of swimming classes that swimmers participated – that occurred in the same semester – indicated that children demonstrate excessive tiredness at the end of 50 minutes. It is necessary mention that children participate in other physical activities during the week (approximately 4 hours/class). In this sense, in addition to physical activity, it is common for children with disabilities participate in weekly physical therapy, speech therapy, occupational therapy sessions, and other therapies.

For this study it was felt that the time allocated to the practice of the concept Halliwick was appropriate for this research and for the children who participated, based on observation of swimming lessons AMA.

The transition times and activity times are closely related. Classes with smaller intervals of transition provide longer intervals of activity times. That allows the child to perform greater quantity of physical activity to reduce sedentary behavior. Furthermore, it allows the child to achieve greater success in the acquisition and improvement of motor skills required classes through repetitions.

The proposed activities in class were: 1) get in the water using the pool edge; 2) blow the water to make bubbles; 3) move with heels (standing position) by the pool holding a sponge and then squeeze it to deposit the water into a sponge located at the edge of the pool; 4) collect balls of different colors of the water and takes them to a basket according to the color requested by the lecturer; 5) collect all the balls and keep them in a basket located on the edge of the pool; 6) water circuit (roll on a carpet float, dive among a hula hoop, diving under a float mat); 7) form a circle and sing infant songs ("the frog do not wash the feet" and "threw the stick on the cat"); 8) form a column and sing infant songs moving through water ("the crazy train" and "little indians"); 9) get out of the water pool using the ramp.

It is noted that activity time includes the time out of focus, occupation time and the wasted time. In the activity time, the swimmers were on average 6 minutes and 7 seconds out of focus. Those remaining major and minor time out of focus were the child 1 (low vision) and the infant 4 (cerebral palsy), respectively. During the time that the swimmer remains out of focus, it may be in occupation or waste time, but it is not possible to be identified from the footage. However, studies show that people with visual impairment have lower levels of physical activity and few opportunities to participate in them, so we need and should be encouraged to do it for health reasons (LIEBERMAN et al., 2010). To do so, the opportunities for people with visual impairment to engage in programs tailored to their needs (KOZUB, 2006), the concept Halliwick appropriate (GRESSWELL et al., 2010) must be provided.

In contrast, during the time that children appeared in the footage, so could meet in occupation (when performing the activity proposed by the teacher) or waste (when not performing the activity proposed by the teacher). The median of children's occupation time was 94,6% (25 minutes and 2 seconds) and the time wasted 5,4% (1 minute and 23 seconds).

The occupation times and waste are inversely proportional because the longer in occupation makes the less time wasted. Thus, the child 4 (cerebral palsy) showed higher occupancy time (100%) and in waste; while the child 5 (autism) showed lower occupancy time (84,3%) and longer in waste (15,7%); This is justified by the fact that, despite physical limitations, children with cerebral palsy easily interact with their peers with disabilities, making it easier to engage in activities with a view that the social aspect is one of the most influential for physical activity people with disabilities (OLIVEIRA et al., 2013). But people with autism, besides having features like the limited development in communication skills, social interaction and behaviors restrictive or repetitive, may have deficits in motor skills and the opportunities to engage in physical activities are reduced (LANG et al., 2010).

The children 1, 2 and 3 remained, respectively, 94,6%, 96,1% and 98,3% of the time in occupancy and, 5,4%, 3,9% and 1,7% in waste time.

Are presented in Figure 1, the engagement time of each child (in occupation and waste).

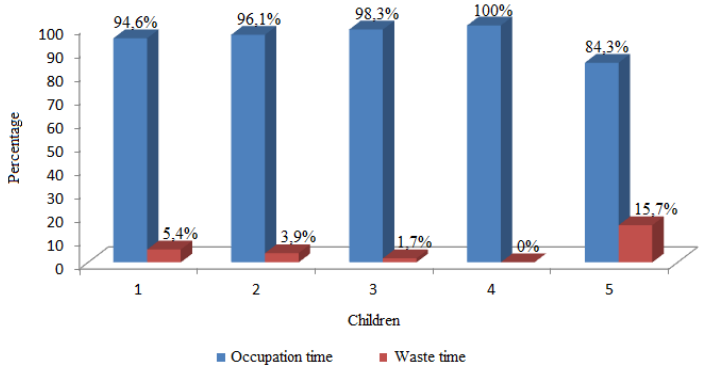


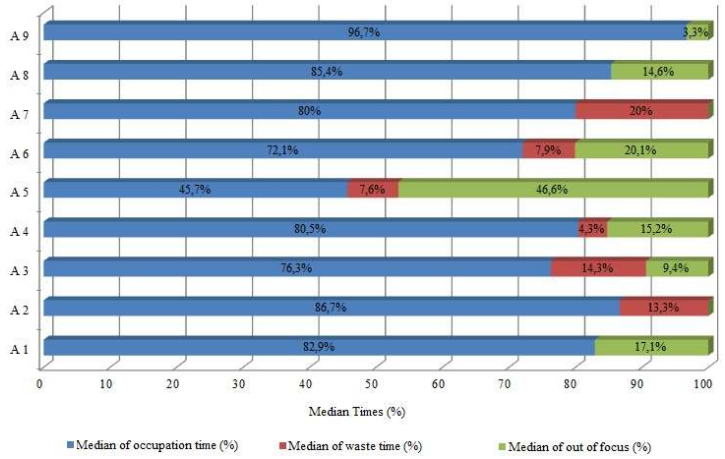
Figure 1 – Percentage of engagement time of the children (in occupation and waste).

The engagement time of children in each activities (A) proposals, are present in Figure 2.

It is observed that activities showed higher occupancy time were the activities 9 (get out of the water by the ramp) and 2 (blowing the water to make bubbles), being 96,7% and 86,7% of occupation time respectively. The activity with lower occupancy time was activity 5 (collecting balls and keep them in a basket), equivalent to 45,7%. The activity 7 (form a circle and sing infant songs) enabled higher waste median time, 20% of activity time. The activity 1 (get in the water by the pool edge), activity 8 (sing infant songs and move in the water) and activity 9 (get out of the water by the ramp) not allowed waste time. As for time of focus, the activity 5 (collect balls and keep them in a basket), the median of children's time reached 46,6% of activity time and activities 2 (blowing the water to make bubbles), 8 (sing infant songs and move in the water) and 9 (get out of the water by the ramp) did not allow the children to stay out of focus (Figure 2).

The characteristics of the proposed activities, as a group, were considered important for the engagement of swimmers because the group work helps to improve learning because it motivates children and makes them learn from each other, the same way play games are seen as good strategies for teaching swimming (GRESSWELL et al., 2010).

Despite previous experiences of children with the aquatic environment, it is clear that the proposals were in class activities related to adaptation to the water and breath control. The Halliwick suggest that participants are divided into groups according to the levels of their skills in the water, thus: First level (Red) - skills related to adaptation to the water, through independence and control of breathing; Second level (Yellow) - skills related to balance control and rotations of the body in its various axes: transverse, sagittal and longitudinal; Third level (Green) - skills related to movements, where the swimmer moves in water in single births and adapted progression (GARCIA et al., 2012). All children fitted in the first level.



Legend: A – Activity.

Figure 2 – Median of time engagement (in occupation, in waste and out of focus) for activity.

As long as the child remains in occupation or waste time is related to the disability and the type of assistance the child receives from an adult to engage in activities. The personal characteristics of each child the aid provided by adults will be differentiated (SCHMITT et al., 2011). The qualification and training of adults so that they can adequately provide the necessary aid to children with disabilities (BLOCK; ZEMAN, 1996). These appropriate services allow that children can get involved with the activities proposed in class. The time out of focus occurred because the activities are characterized by their dynamism and children with more active behaviors and skills of independence can stay longer interval of time out of focus.

CONCLUSION

This class with Halliwick concept the children with disabilities advantage a good use of time, keeping in large periods of time in occupation and reduced periods in waste time. The planning and the preparation of professionals influenced the management and children engagement.

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Rua do Imperador, 208. Ponta de Baixo, São José - Santa Catarina, Brasil. CEP: 88.104-020.

HALLIWICK CONCEPT AND ENGAGEMENT OF CHILDREN WITH DISABILITIES

ABSTRACT

The aim was to analyze the time of engagement of children with disabilities in the context of Adapted Motor Activity, by the Halliwick concept. The participants were five children with disabilities. For data collection was performed and filmed a class based on Halliwick, in which it was registry in written. For the analysis of the data it was used: a) Class time: 1) Class - total class time, activity time and transition time and, 2) The time of engagement of children in activity - out of focus, in occupation or wasted time. The total allotted time was 37 minutes and 21 seconds long, 4 minutes and 49 seconds corresponding to transitions between the activities and 32 minutes and 32 seconds to actual tasks carried out according to the method suggested by Halliwick. As for the time of engagement of the children, the average was 6 minutes and 7seconds out of focus. The average occupation time was 25 minutes and 2 seconds and of wasted time of 1minute and 23 seconds. The activities that showed higher occupancy time were 9 (get out of the water by the ramp) and 2 (blowing water and soap to make bubbles), being 96,7% and 86,7% of activity time, respectively. The activity with lower average occupancy time was 5 (collect balls and keep them in a basket), equivalent to 45,7%. It was notice that the application of the Halliwick concept provided the children to remain occupied for long periods and the wasted time was reduced. Linked to Halliwick concepts, preplanning class and the professional preparation are essential components for a good time management in class and the good performance of all students.

KEYWORDS: Halliwick, engagement, children with disabilities.

LE CONCEPT DE HALLIWICK ET L'ENGAGEMENT D'ENFANTS HANDICAPÉS

RESUMÉ

Le but était d'analyser le temps d'engagement des enfants handicapés dans le cadre de l'Activité Moteur,Adaptée à partir de la conception de Halliwick. Les participants étaient cinq enfants souffrant de handicaps. Il a été réalisé et filmé un cours basé sur Halliwick et ainsi qu'un registre du cours. Pour l'analyse des données, nous avons utilisé: a) Le temps en classe: 1) Classe – temps total du cours, temps en activité et temps de transition et, 2) le temps d'engagement des enfants – hors objectif, en occupation ou en perte de temps. Le temps total du cours a été de 37 minutes et 21 secondes de duration, dont 4 minutes et 49 secondes correspondant aux transitions entre les activités et 32 minutes et 32 secondes la réalisation effectives des tâches, en accord, comme le suggère la méthode Halliwick. Quant au temps d'engagement d'occupation des enfants il a été en moyenne de, 6 minutes et 7 secondes hors objectif. La moyenne du temps d'occupation a été de 25 minutes et 2 secondes et de la perte de temps de 1 minute et 23 secondes. Les activités qui proportionnent le plus grand temps d'occupation ont été à 9 (sortir de l'eau par la rampe) et 2 (souffler l'eau pour faire des bulles), étant de 96,7% et 86,7% du temps d'activité, respectivamente; et l'activité avec la plus base moyenne de temps d'occupation a été a 5 (ramasser les balles et les ranger dans un panier), ce qui équivaut à 45,7%. Il a été observé que l'application du concept de Halliwick a permis aux enfants de rester dans des périodes d'occupation élevées et de réduire le temps de gaspillage. Lié aux concepts de Halliwick, la planification préalable du cours et la préparation des professionnels sont des éléments indispensables à une bonne gestion du temps en cours et au bon profit des élèves.

HALLIWICK CONCEPTO Y COMPROMISO PARA NIÑOS CON DISCAPACIDADES

RESUMEN

El objetivo de este estudio fue analizar el tiempo de participación de los niños con discapacidad en el contexto de la Actividad Motora Adaptada, desde el concepto Halliwick. Participaron cinco niños con discapacidades. Se filmó una clase basada en el concepto Halliwick. Posteriormente se realizó el registro cursivo del película. Para el análisis de los datos se utilizó: a) Tiempo de la clase: 1) Conferencia – tiempo total de la clase, tiempo en actividad y tiempo de transición y, 2) El tiempo de compromiso de los niños – ocupado, desperdicio y fuera del foco. El tiempo total de la clase fue 37 minutos y 21" de duración, siendo que, 4 minutos y 49" corresponde a las transiciones entre las actividades y 32 minutos y 32 segundos la realización efectiva de las tareas de acuerdo con el método Halliwick. En relación al tiempo de compromiso de los niños fueron, en promedio, 6 minutos y 7 segundos fuera de foco. La duración media del tiempo de ocupación fue de 25 minutos y 2 segundos y el tiempo de disperdicio 1minutos e 23 segundos. Las actividades de mayor tiempo de ocupación fueron las actividades 9 (salida del agua por la rampa) y 2 (soplar el agua para hacer burbujas), siendo 96,7% y 86,7% de tiempo en actividad, respectivamente; y la actividad con una ocupación promedio tiempo más bajo fue la 5 (recoger las pelotas y ponerlas en una canasta), equivalente a un 45,7% del tiempo. Las actividades utilizándose el concepto Halliwick los niños permanecieron períodos de ocupación elevados y reducido tiempo de desperdicio. Vinculado a los conceptos Halliwick, la planificación previa de clases y la preparación profesional son componentes esenciales para un buen tiempo en la gestión de la clase y el buen desempeño de todos los estudiantes.

O CONCEITO HALLIWICK E O ENGAJAMENTO DE CRIANÇAS COM DEFICIÊNCIA

RESUMO

O objetivo foi analisar o tempo de engajamento de crianças com deficiência, no contexto de Atividade Motora Adaptada, a partir do conceito Halliwick. Participaram cinco crianças com deficiências. Foi realizada e filmada uma aula com base no Halliwick e se realizou registro cursivo. Para análise dos dados utilizou-se: a) Matriz do Tempo de aula: 1) Aula - tempo total da aula, tempo em atividade e tempo de transição e, 2) o tempo de engajamento das crianças - fora de foco, em ocupação ou em desperdício. O tempo total da aula foi 37" e 21' de duração, sendo 4" e 49' correspondente a transições entre as atividades e, 32" e 32' a realização efetiva das tarefas, de acordo com o que sugere o conceito Halliwick. Quanto ao tempo de engajamento das crianças estiveram, em média, 6" e 7' fora de foco. A média do tempo de ocupação foi 25" e 2' e do tempo em desperdício 1" e 23'. As atividades que proporcionaram maior tempo de ocupação foram a 9 (saída da água pela rampa) e a 2 (assoprar a água para fazer bolhas), sendo 96,7% e 86,7 % do tempo em atividade, respectivamente; e a atividade com menor média de tempo de ocupação foi a 5 (recolher bolas e guardá-las em um cesto), equivalente a 45,7%. Notou-se que a aplicação do conceito Halliwick proporcionou às crianças permanecerem elevados períodos em ocupação e reduzido tempo em desperdício. Atrelado aos conceitos do Halliwick, o planejamento prévio da aula e o preparo dos profissionais são elementos indispensáveis a uma boa gestão do tempo em aula e, ao bom aproveitamento dos alunos.

PALAVRAS-CHAVE: Halliwick, engajamento, crianças com deficiência.