
**ARTICLE BY B. ANTALA & J. LABUDOVÁ - FOUR
LANGUAGES ABSTRACTS** (E)(F)(S)(P)**CLASSIFICATION OF SWIMMING HABITS OF CHILDREN WITH MENTAL DISABILITY**

This work aims to diagnose the learning performance of children with mental disability during adapted physical education. A methodology of assessing the level of the learning process of swimming motion was developed and tested for two years within two groups of children with mental disability. No essential difference was observed in the speed or quality of learning of the basic swimming movements, neither between girls and boys, nor between age groups. The assessment methodology has shown to be adequately able to help separate sportsmen into several performance groups for subsequent swimming preparation.

Key words: physical education, swimming, children, mental disability, classification, assessment, performance.

CLASSEMENT DES PROCÉDÉS DE NATATION DES ENFANTS HANDICAPÉS MENTAUX

Ce travail a le but de faire de diagnostic de l'apprentissage des enfants atteints de maladies mentales pendant la pratique adaptée d'Éducation Physique. Une méthodologie d'évaluation du niveau d'apprentissage des mouvements en natation a été développée et éprouvée pendant deux années en deux groupes d'enfants atteints de maladies mentales. Aucune différence substantielle a été remarquée à propos de vitesse ou qualité de l'apprentissage des mouvements basiques de la natation, soit entre garçons et filles, soit entre les différents niveaux d'âge. La méthodologie de l'évaluation s'est montrée convenable pour aider le rassemblement des sportifs d'après leur performance pour l'entraînement postérieur.

Mots-clefs: éducation physique, natation, enfants, problème mental, classement, évaluation, performance.

CLASIFICACIÓN DE LOS PROCESOS DE NATACIÓN DE NIÑOS DISMINUIDOS PSÍQUICOS

Este trabajo tiene el objetivo de diagnosticar el aprendizaje de niños con problemas mentales durante la práctica adaptada de Educación Física. Una metodología de evaluación del nivel de aprendizaje de los movimientos en natación fue desarrollada y comprobada por dos años en dos grupos de niños disminuidos psíquicos. Ninguna diferencia sustancial fue notada en velocidad o cualidad en aprendizaje de los movimientos básicos de la natación, sea entre chicos y chicas o entre los diversos niveles de edad. La metodología de evaluación se mostró adecuada para ayudar en el agrupamiento de los deportistas de acuerdo con sus desempeños para el entrenamiento posterior.

Palabras-clave: educación física, natación, niños, problemas mentales, clasificación, evaluación, desempeño.

CLASSIFICAÇÃO DE HÁBITOS DE NATAÇÃO DE CRIANÇAS COM DEFICIÊNCIA MENTAL

Este trabalho tem por objetivo diagnosticar o aprendizado de crianças com problemas mentais durante a prática adaptada de Educação Física. Uma metodologia de avaliação do nível de aprendizado dos movimentos de natação foi desenvolvida e testada durante dois anos com dois grupos de crianças com problemas mentais. Nenhuma diferença substancial foi observada na velocidade ou qualidade do aprendizado dos movimentos básicos da natação, seja entre meninos e meninas ou entre as diferentes faixas etárias. A metodologia de avaliação mostrou-se adequada para auxiliar na separação dos esportistas em grupos de acordo com seu desempenho para o treinamento posterior.

Palavras-chave: educação física, natação, crianças, problema mental, classificação, avaliação, performance.

CLASSIFICATION OF SWIMMING HABITS OF CHILDREN WITH MENTAL DISABILITY ^(E)

BRANISLAV ANTALA & JELA LABUDOVA

Faculty of Physical Education and Sports, Comenius University, Slovakia, Europe

INTRODUCTION

In Slovakia there are around 800 special facilities for people with health impairments. Current number of handicapped in Slovakia (approximately 150 000 people) requires to focus the attention of professional experts on development of optimal approach to sports training and their motive activities. Every individual, even with a weakened health, has to have the feeling of being a significant member of the society he or she lives in. Therefore the society should seek solutions to secure opportunities for their motive and sport growth. In our contribution we would like to inform about our method of classification of moving performance of beginners with mental disabilities.

THEORETICAL ANALYSIS

Mental disability means a significant limitation of the general intellectual and adaptation abilities of a human being which came to existence during the individual's development stages, especially until the age of 18 (HORWITZ et al., 2001). The overall attributes of mental retardation define that it is an irreversible and permanent state of a delayed mental development out of which one is not able to "grow out of".

Intellectual level is diagnosed by means of IQ which describes a mental lag of the value is under 70. The IFC (2001) classifies individual mental disorders by physical functions, including assessment of the psychological functions. Classification of individual functions, including mental functions is judged by a means of scale from 0 to 9 where 0 points are assigned in case of the absence of a physical disorder and 9 points are assigned in case of an absence of the physical function itself – has no manifestation. In the concept of a mental function intellect is assessed for example, including retardation, dementia and etc., but also orientation, attention, emotional and perceptive functions (www.who.int/whr/2001). Mental retardation is the consequence of a weakened or incomplete mental development which can be characterized by the disorder of skills and intelligence in the areas of cognitive, communicative, motor and social skills. It is stated that the prevalence of mental retardation among population is 1-3%. According to Pogady and WIEDERMAN (2001) a slight stage of mental disability is genetically conditioned a severe stage is the consequence of an overcome infection, complicated birth, etc.

During the analysis of healthcare for children and youngsters in Slovakia it is stated that in the year 1996 for every 10 000 born children till the age of 14, 157 suffered mental and behavioral disabilities and till the age of 18, 98 suffered. Out of this number 114 children till the age of 14 and 73 people till the age of 18 have suffered mental retardation. In the year 2003 this number arose and in the ages up to 14 we have registered in SR for each 10 000 children 131 and in the age range of 15 – 19 it was 120 children with mental retardation. (Ambulantná starostlivosť pre deti a dorast v SR, 1997, 2004)

We are aware that the level of exercise moving capabilities of mentally impairment has different manifestations, from the inability to accomplish basic movements during serious retardation to almost normal movement capabilities during slight level of retardation. Comparative studies have shown that children with mental disability reach, as compared to the intact part of population, lower performance levels in tests of strength, endurance, balance, running speed, flexibility and reaction time (KREBS, 1990). Boys with mental disability have better flexibility and balance than girls with mental disability.

During the course of school years children in Slovak republic with intellectual disabilities realize at school their compulsory physical education lessons where they should pick up the basics of locomotion, develop motor capabilities, correct defective body posture but also pick up consecutive exercises, motive games, activities from rhythmical gymnastics, athletics and sports games. In the context of selective teachings it should be especially activities and sports that are included in the Paralympics program or Special Olympics (Uebné osnovy, 2003). A child with mental disability is able to realize different kinds of exercise and sport activities like floor hockey, tennis, badminton,

volleyball, horse riding, crosscountry skiing, cycling, swimming and many other sports. Directed training with intensive activity plays an important part of development of mentally disability impairment in adolescence (VALKOVÁ 2004). LABUDOVIČ (2001) indicates that physical education process with individuals with mental disability will be determined by the actual nature of the disability and that is the biological, psychological and social factors which are connected with certain level of motor, emotional and will capability.

For people with mental disability swimming is the instrument of increasing cardio-pulmonal activity, development of strength and endurance. It helps to form the personality of the athlete, it contributes to learn discipline and it is also connected with the role of learning to be self-sufficient and self-serviceable. With the increase of popularity of the Special Olympics International performance requirements increase as well as swimming technique perfection. This stimulates trainers to teach athletes with mental disabilities to swim according to the required rules and techniques (JAREMBÁKOVÁ, 2001).

AIM, TASKS AND METHODOLOGY OF RESEARCH

In the course of conceptualizing the scientific background for teachers and coaches at the Faculty of Physical Education and Sports of the Comenius University we sought possibilities of diagnosing the learning performance of children with mental disability during adapted physical education. This brought us to developing a methodology of assessing the level of the learning process of swimming motion in the water. In this contribution we would like to present this system of point assessment which can be utilized during basic swimming.

Our aim has been:

- 1) to develop a methodology of assessing and characterizing the principles of the point scale
- 2) to verify the assessment within 2 groups of children with mental disability.

Working with mentally impairments children requires systematic preparation from the early basic swimming course. We chose to focus our experiment on fulfilling of the individual steps of the methodology for the basic swimming course, which took us 2 years. The assessment of changes of the picked up swimming movements was done by the developed assessment methodology within 2 groups of childrens.

The experimental group consisted of 12 children with mild mental retardation. They were children from special schools or clients of special care homes in the ages of 12 to 15 years. We have split up the experimental group into 2 separate groups of beginners. (Down syndrome, Childs brain paralysis, autism, epilepsy, partial spastic disorders of upper or lower limbs, scoliosis and etc.):

- group "A" consisted of 6 children that started training at the ages of 12 and 13 (2 girls A3, A5 and 4 boys A1, A2, A4, A6)
- group "B" consisted of 6 children that started training at the ages of 14 and 15 (4 girls B1, B2, B3, B5 and 2 boys B4, B6)

RESULTS AND DISCUSSION

First step before realization of the basic swimming training was the work of constructing the assessment methodology of individual movement habits in the water. We wanted to assess the individual development of each of the children and based on that to diagnose the fulfillment of requirements of the basic training, possibilities of shifting into advanced swimmers group – active swimmers, that would prepare themselves for competitions (JAREMBÁKOVÁ, 2005). Based on pedagogical experience and knowledge we have compiled an assessment scale of 5 points that states these requirements of successful fulfillment:

- 0 points: absolute non-accomplishment of requirements, child forces against accomplishing movements, no sign of carrying out the movement
- 1 point: during accomplishing of the movement a great help of assistant/trainer is needed, the movement is interrupted
- 2 points: during accomplishing of the movement help of assistant/trainer is needed, movement is fluent and artificial
- 3 points: during accomplishing of the movement a slight, interrupted help of assistant/trainer or just close presence of trainer is needed
- 4 points: required activity is done by the athlete alone without the help or assistance from the trainer, it is analytical with mistakes, interruptions, or breaks
- 5 points: required activity is done by the athlete entirely alone without assistance from the

trainer, without mistakes, technically correct (within the possibilities and health condition)

When assessing the process of picking up individual activities and swimming movements we concentrated on an array of control indicators which have assigned letters "a" to "o". We tested each sportsman's performance in each of the indicators before the experiment, specifically after the first year and after the end of the experiment. We tested the performance of sportsmen in the 18 indicators:

- a) entering the pool
- b) slide into the water from the edge of the pool
- c) kicking-off while sitting at the edge of the pool
- d) crossing to the other side of the pool
- e) submerging the face into water
- f) regular breathing
- g) kicking-off with the lower limbs
- h) lying on the surface of the water
- i) swimming with a board in the hands
- j) take-off from the wall – flowing
- k) movement of arms while standing in the water and leaning the torso forward
- l) swimming motion of arms in flowing water
- m) swimming with a board between the legs
- n) swimming with a board with regular breathing
- o) swimming in the position on the abdomen
- p) swimming in the position on the back

As an example we give a basic point break-down of one indicator:

d) crossing to the other side of the pool

0 points: not accomplished even with help, there is not a sign of trying to cross

1 point: constant help during the crossing, constant holding onto the edge of the pool

2 points: crossing with sparse help of the trainer and constant holding onto the edge of the pool

3 points: crossing of the pool on the bottom of the pool without assistance of the trainer, sparse holding onto the edge of the pool

4 points: crossing without the trainer, without holding onto the pool's edge, with mistakes

5 points: fluent crossing by him/herself on the bottom of the pool without holding onto the pool's edge

The indicated developed point assessment of quality of performing the individual swimming movements have been used during the analysis of the process of basic swimming training in groups of 12-13 year old children. In table 1 are indicated given points for individual children in each of the monitored indicator at the beginning and at the end of the experiment:

Tab. 1- Point assessment of individual activities of children in group A

Indicator	A1		A2		A3		A4		A5		A6	
	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.	1.	2.
a	5	5	4	5	4	5	4	5	3	5	5	5
b	5	5	3	5	4	5	2	5	3	5	4	5
c	3	5	4	5	4	5	2	5	3	5	4	5
d	5	5	5	5	5	5	5	5	5	5	5	5
e	2	5	2	5	2	5	1	5	1	5	3	5
f	2	5	0	5	1	5	0	4	0	5	1	5
g	1	5	1	5	1	5	1	4	1	5	1	5
h	1	5	1	5	2	5	1	5	1	5	2	5
ch	2	5	0	5	1	5	0	4	0	5	1	5
i	1	5	1	5	2	5	1	5	1	5	2	5
j	1	5	2	5	1	5	2	5	1	5	1	5
k	0	5	0	5	1	5	0	5	0	5	0	5
l	0	4	0	4	0	3	0	0	0	1	0	4
m	0	4	0	5	1	5	1	4	0	4	0	5
n	1	4	0	5	0	5	0	3	0	4	0	5
o	0	4	0	2	0	3	0	0	0	1	0	1
Together	29	76	23	76	29	76	20	64	19	70	29	75

Child A1 with mental disability gained 29 points at the initial assessment. By himself and without mistakes he accomplished: entry into the pool, sliding into the water and crossing to the other side of the pool. He did not accomplish at all: swimming motion of arms in flowing water, swimming with a board between the legs, swimming with a board with regular breathing and swimming in the position on the back. After completing the experiment after two years he gained 76 out of 80 points from the required norm. Improvement has been made in 13 indicators, highest in the swimming motion of arms in flowing water. On his own he has been able to accomplish without mistakes indicators "a" to "k". On a similar basis we are able to analyze the process of picking up individual activities of each sportsman.

We were able to sum up that after completing 43 training hours improvement in performance has been made from 24.8 to 71 points (Tab.2).

Tab. 2- Summary of performance of sportsmen from group A (in points)

Sportsman	Number of trainings	Entry points	Exit points	Entry points	Exit points
A1	26	29	68	61	76
A2	58	23	63	60	72
A3	45	29	68	68	76
A4	56	20	43	43	57
A5	39	19	62	66	70
A6	35	29	65	60	75
Average	43,1	24,8	61,5	69,6	71

After two years of training an improvement was made by all the sportsmen in the group of 12-13 year olds up to the full 5 points in 9 indicators. The smallest improvement was made in the indicators "o" and "l" (swimming in the position on the back and swimming with a board between the legs). The most notable improvement by all sportsmen was in the indicator "k" (swimming motion of arms in flowing water). A fairly good improvement was observed in the test of regular breathing, swimming with a board and swimming in the position on the back.

After 51 trainings sportsmen in group B have made an improvement in performance from 21.2 to 73.3 points (Tab.3). All of the sportsmen have gained individually the full value of performance only in 5 indicators (a, b, c, d and i). Similarly to group A also in group B the biggest improvement was made in the indicator "k" (swimming motion of arms in flowing water), which made a good predisposition to learning swimming on the abdomen. The smallest improvement was made also in the indicators "o" and "l". No essential difference was observed in the speed or quality of learning of the basic swimming movements, neither between girls and boys, nor between the two age groups. In both groups a decrease of performance was observed during the summer holidays, which has been recovered gradually throughout the year, up to a higher performance level than at the beginning of the experiment.

Tab 3- Performance summary of group B sportsmen (in points)

Child (Sportsman)	Number of trainings	Entry points	Exit points	Entry points	Exit points
B1	61	17	68	62	76
B2	56	14	60	58	74
B3	54	24	63	56	74
B4	57	31	74	70	78
B5	35	11	42	33	62
B6	46	30	59	59	76
Average	51,5	21,2	61	56,3	73,3

CONCLUSION

Developed and verified assessment methodology of individual learning advancement of swimming movements with sportsmen with mental disabilities has shown to be adequate able to help separate sportsmen into several performance groups for subsequent swimming preparation. Children A1, A3, D1 and D6 were shifted into the group of advanced swimmers and began preparation for swimming competition. With this methodology we helped trainers in the movement of Slovak Special Olympics to standardize the view of performance of sportsmen.

LITERATURE

- Ambulantná starostlivosť pre deti a dorast v SR 1996. Zdravotnícka štatistika. Bratislava: ÚZIS, 1997. 26 s.
- Ambulantná starostlivosť o deti a dorast v SR 2003. Zdravotnícka štatistika, 2004. Bratislava: ÚZIS, 2004. 32 s.
- www.who.int/whr/2001/Main/en/media/disorders.htm
- ICF (International Classification of Functioning, Disability and Health). Resolution WHA 54. 21, 2001. p. 25.
- JAREMBÁKOVÁ, L.: Príprava súťaží v plávaní pre mentálne postihnutých. Bratislava: Juventa, 2001. 31 s.
- JAREMBÁKOVÁ, L.: Tvorba a overenie tréningového programu pre plavcov s mentálnym postihnutím. Dokt.diz.práca. Bratislava: FTVŠ UK 2005, 139 s.
- KREBS, P. L.: Mental Retardation. In: Winniek, J. P.: Adapted Physical Education and Sport. Champaign, Illinois: Human Kinetia, 1990. s. 153 – 174.
- LABUDOVIČ, J.: Integrácia zdravotne oslabených žiakov v školskej telesnej výchove. Bratislava: Metodické centrum, 2001. 75 s.
- POGÁDY, J. – WIEDERMANN, V.: Sociopatogenéza a psychopatológia. Československá psychiatria, Praha: 1972.
- Učebné osnovy Zdravotná telesná výchova. Pre základné školy 1. – 9. ročník (využívanie zdravotnej telesnej výchovy a integrovanej telesnej výchovy). Bratislava: MŠ SR 2003. 53. s.
- VÁLKOVÁ, H.: Comparison of their different international programs on the background of special olympics programme: design and management. In: Adapted Physical activities – European dimensions. Workshops proceedings. České Budějovice: University of south Bohemia, 2003. s.33 – 36.



FIEP BULLETIN ON-LINE
<http://www.fiepbulletin.net>