



Science, Movement and Health, Vol. XVI, ISSUE 2 Supplement, 2016
September 2016, 16 (2, Supplement): 323-328
Original article

TESTING METHOD USING SPACE ORIENTATION ABILITY TO UNTRAINED PERSON MATORIN

BUȚU Ioana Maria¹, CĂTUNĂ George Cristian¹, TEODORESCU Anemari Simona¹, IORGA Anca¹,
GHEORGHE Georgeta Ioana¹

Abstract*

Aim. Coordinative capabilities are unthinkable without a good development all of the others physical factors: strength, speed, stamina and involve them in making complex movement. Coordinative capabilities are only effective in conjunction with conditional capacities.

Coordinative capacities are based on: the physical factors of performance repertoire of gestures and analytical ability and mastery expresses itself cațiunilor driving and increased learning capacity (Tudor, 1999 coordinative abilities and intermediate components of driving ability, Publisher Coresi Bucharest).

Methods. The experiment was done on 40 people untrained in the period October 2015 (initial testing) and March 2016 (final test) and sought to determine the degree of capacity development orientation in space (Epuran, 2005).

Results. Research are used to measure overall coordination and balance by test Matorin. Testing consists of a rotary jump around the longitudinal axis of the body (left and right). After testing, Matorin equaled the performance of over 360 degrees with "very good".

Conclusions. After the experiment there is an improvement in the values obtained in final testing, this being due to preparing people tested during classes conducted at the sport and physical therapy.

Keywords: spatial orientation, Matorin test, untrained.

Introduction

Expression of coordination abilities is subject to processes of maturation, especially the nervous system and the number of motor skills they mastered the subject. Coordinative capabilities are based on physical factors of performance repertoire of gestures and analytical capacity and is expressed by mastering the driving actions and increased learning capacity. Dragnea coordinative abilities defines as "a complex of predominantly psycho- motor skills, which involve the ability to quickly learn new moves, rapid adaptation to various conditions specific to various types of activities, through the restructuring fund existing moto" (Dragnea, Mate Teodorescu, 2002).

Coordinative capabilities can have the following manifestations:

- Capacities coordinative general properties and that all necessary documents/driving actions;
- Capacities specific coordinative: highlighted in practicing various branches and sporting events.
- Capabilities of the coordinative qualities in other driving regime: the regime of speed, stamina, strength (Tudor, 1999).

From research conducted on several theories we can highlight the following:

- conditional capacities are based on muscle and

metabolic efficiency appliances, while coordinative abilities are determined by the ability to control movement and organization;

- coordinative abilities are conditional on the ability of reception and processing of information gained through analyzers involved in the movement (tactile, kinesthetic, vestibular, visual, acoustic) and in developing driving skills (Teodorescu, 2012).

The capabilities of the coordinative are presented in the work of Tudor (1999), as synonymous with skill, dexterity and skill and are designed to coordinate safe and economic actions driving situations possible (stereotypical) and unpredictable (adaptation) and determine learning relatively quick gestures sports. The author completes his reasoning so it could define coordination ability, psychomotor as quality, based on the correlation between the central nervous system and skeletal muscle while making a move.

Determining spatial orientation is the man the position (situation) to some of his objects of his choice and position of these objects to himself.

Defining the spatial orientation, Katz highlights three distinct aspects which contribute to achieving them.

1. The orientation in space means first of all the ability to maintain a certain position in space and return it if they change or disturbance. It is about

¹ Facultatea de Educație Fizică, Sport și Kinetoterapie, Universitatea Spiru Haret București, ROMANIA

E-mail address: mi2oana@yahoo.com

Received 11.03.2016 / Accepted 17.04.2016

* the abstract was published in the 16th I.S.C. "Perspectives in Physical Education and Sport" - Ovidius University of Constanta, May 20-21, 2016, Romania



personal space differentiation coordinates after up-down, forward-backward, left and right directions between. This includes keeping the spatial orientation and balance the specific state of spaciousness which is inseparable from the whole body scheme being caused by internal and external sensations. Dimensional space by virtue of any body can move in three different directions. In a broad sense, spatial orientation consists of three-dimensional body orientation in the surrounding reality all three dimensions.

2. Secondly, the author cited include the notion of spatial orientation, orientation nearby. It is traveling in a relatively small area, and a person can present points of guidance given perceptual field. In this situation leverages data sensory (visual, acoustic, olfactory, etc.) arising from stimuli concrete action in the space of analyzers, serving on guidance signs are present. For example, the person hears the door and crossing the room is moving toward this benchmark.

3. Katz presents a third form of spatial orientation or direction over long distances. In this type include orientation which consists of individual directivarea to unknown and distant landmarks that can not be seen directly. And if great distances orientation intervenes as mediator orientation but almost, in that they are capitalized in succession a series of orientation points perceptible.

Study orientation in space can not be separated any problematic perception of space and spatial representations, as the perception of spatial characteristics of objects formed by the accumulation of sensory knowledge about the objects surrounding world, but is closely linked to perception and representation of spatial objects.

Objects of perception and representation of perception and representation of space and spatial orientation there is a continuous passage almost imperceptible.

Accumulation of spatial representations gradually leads to the possibility of generalized perception of the space and creates the potential spatial orientation. Spatial orientation is the practical expression of spatial representations; it can and should serve as a criterion for assessing the degree of accuracy of spatial representations.

We conclude by saying that spatial orientation means the human ability to perceive spatial attributes of objects, their arrangement in space and their position towards them. Orientation in space is also preserving or restoring the ability of a position in space and the displacement movements directivarea close or distant.

According to some authors classifications of coordination abilities:

- guidance; reactionary; differentiation kinetics; maintaining the balance; rhythmic; concordance;

restructuring.

- kinetic differentiation; spatial orientation; reactionary; maintaining the balance; rhythmic ability.

- maintaining balance; relax body muscles rational; compliance and accurate adjustment of spatial parameters of the movement.

- control; ability rhythm; differentiation; steady; to react.

- assessment and adjustment of dynamic parameters, spatial, temporal motor act; maintaining the balance; sense of rhythm; orientation in space; Automatic relaxation of the muscles; coordination of movements.

- Manno 1982, states that there are seven forms and considers all information it developed analyzers designed to develop coordinative skills consist of the following components: combining ability (coupling) movements; capacity-space orientation; Kinesthetic differentiation capacity; capacity balance; motor responsiveness; ability to change the motion; rhythmic ability.

- coordination under duress; spațio-temporală differentiation; Reaction to acoustic and optical stimulus; rhythmic; spatial orientation; steady.

Concluding at the primary stage we considered five core capabilities manifestations event coordination, namely: assessment and adjustment capacity and spatiotemporal dynamics parameters; ability to maintain balance; sense of rhythm; ability to orient in space; ability to coordinate movements.

Realizing a review of the literature, quoting the Manno, 1982 presents a classification of coordination abilities. Direction and control ability with the following components:

1. The ability to link and combine movements;
2. The ability to differentiate;
3. Ability to balance;
4. Ability guidance;
5. Ability pace;
6. Responsiveness;
7. Ability transformation.

Regarding the factors that condition, they may be biological, psychological and motor.

Biological factors:

- ability to rapid rotation of the excitation with the inhibition of the cerebral cortex;
- speed of transmission of nerve impulses, and related inland efferent;
- functional quality analyzers;
- quality which causes muscle innervations and then relax;
- value of existing energy sources in the body, especially the muscles.

Factors likely motive:

- level of development of other qualities motive;



- anticipation of the subsequent roll movement and consequently the use of techniques known.
- Psychological factors:
- assessing future conditions of the criminal movement (opposition opponents, climatic factors) which can be very rapid, as reflex or as responses learned and appropriate typical situations that arise in every branch of sport or execution skills motive basic and custom. These answers are stereotyped or automated movements through repetition time.
- fair representation as precise movements to learn November following;
- short-term memory or long-term;
- quick thinking with all its processes as divergent and convergent, and especially creative thinking.

Expression of coordination abilities is subject to the processes of maturation, especially the nervous system and the number of motor skills they mastered the subject. Capacities coordinative is based on: the physical factors of performance repertoire of gestures and analytical capacity and is expressed by mastering the learning capacity.

Capacities increased driving and coordinative actions are unthinkable without a good development of other physical factors of performance: strength, speed, resistance and their involvement in making complex movement. So coordinative capabilities are only effective in conjunction with conditional capacities.

Generalizing the opinions of specialists from different fields we can say that the capabilities of the coordinative assume the possibilities of the individual to acquire and perform actions complex motor (with a high degree of difficulty), conducting precise and economic movements in time and space, speed and strength required in accordance situations that arise during the conduct of operations (Șerbănoiu, 2002).

Capacity-space orientation allows changing the position and movement of the body in space and time in relation to a particular field of action. We can distinguish two basic forms of guidance:

- in relation to objects moving under relatively static;
- body orientation relative to benchmarks fixed or mobile.

Targeting ability presents an important role in the games in which the athlete must continuously adapt executions by teammates and opponents, the same is true for combat sports, the field of action is lower in technical sports compositional (artistic gymnastics, rhythmic figure skating, Buțu, (2015), spatial-temporal orientation is in great demand, but

automation greatly reduces the role of the visual analyzer in order to strengthen the other analyzers.

- In physical education lessons, education / development of coordination abilities can be achieved throughout her using for this purpose the free exercise or objects individually, in pairs or in groups; also exercises may be held as races and forms as varied and ever changing conditions and with different difficulty levels. It is a quality complex, comprised by all fundamental factors in varying proportions movement - speed, strength, endurance, coordination, joint mobility, sense of orientation, ability); in training, education and development of coordination abilities appear several steps: ensuring accuracy in coordinating movements in space without taking into account the time; it is considered the reasonableness of movements performed simultaneously with different segments of the body to achieve a given stock;
- perform accurate and precise movements to achieve all the action data in a short time;
- Execute and unusual movements in various conditions without mistake and maximum speed. The whole process of formation, development and improvement of education coordination abilities requires complex motor actions in terms of coordination.

The manageability educate in the first education class fizicășcolară the link III, when acting for working large muscle groups in the ring IV, when the theme is to educate coordination, the link of Will when one learns, strengthens and improves motor skills, and in the fundamental lesson when it comes to training.

Methods

The experiment was done on 40 people untrained in the period October 2015 (initial testing) and March 2016 (final test) and sought to determine the degree of capacity development orientation in space.

Research methods are used to measure overall coordination and balance by test Matorin. Testing consists of a rotary jump around the longitudinal axis of the body (left and right). After testing, Matorin equaled the performance of over 360 degrees with "very good".

Results

In Tables 1 and 2 present the values obtained from subjects undergoing initial testing experiment and final rotation left and right.



Table 1. Values obtained the right rotation

Nr.crt.	Topic	T.I	T.F
1.	R.A.	320	345
2.	M.B.	340	350
3.	D.C.	350	355
4.	P.E.	350	355
5.	P.V.	350	355
6.	N.R.	360	355
7.	P.B.	360	355
8.	M.M.	360	360
9.	S.A.	360	360
10.	N.V.	360	360
11.	V.A.	360	360
12.	V.N.	360	365
13.	V.G.	360	365
14.	S.R.	360	365
15.	B.A.	360	365
16.	B.M.	360	370
17.	B.R.	360	370
18.	P.T.	360	375
19.	D.A.	360	375
20.	T.I	360	375
21.	S.I	360	380
22.	B.I	360	380
23.	D.V.	360	380
24.	C.S.	360	385
25.	M.G.	360	385
26.	I.C.	360	390
27.	I.N.	360	390
28.	P.G.	360	395
29.	T.N.	360	395
30.	G.F.	370	400
31.	C.A.	390	400
32.	O.R.	400	435
33.	B.B.	430	440
34.	A.C.	450	450
35.	B.D.	450	450
36.	C.A.	450	470
37.	N.I.	460	480
38.	C.D.	470	500
39.	R.I.	540	570
40.	D.D.	720	715

Table 2. Values obtained from the rotation left

Nr.crt.	Topic	T.I	T.F
1.	R.A.	310	320
2.	N.R.	360	365
3.	P.B.	360	395
4.	M.M.	360	360
5.	M.B.	320	320
6.	O.R.	360	400
7.	D.C.	400	420
8.	S.A.	360	365
9.	N.V.	360	355
10.	P.E.	360	380
11.	V.A.	370	360
12.	V.N.	360	375
13.	N.I.	460	490
14.	V.G.	360	350
15.	S.R.	370	380
16.	A.C.	450	480
17.	B.A.	360	365
18.	B.B.	450	455
19.	B.M.	360	375
20.	B.D.	360	370
21.	B.R.	360	370
22.	C.A.	500	585
23.	D.D.	540	550
24.	P.T.	360	365
25.	D.A.	450	470
26.	C.D.	470	475
27.	C.A.	470	475
28.	T.I.	350	360
29.	G.F.	360	370
30.	R.I.	450	460
31.	S.I.	360	370
32.	B.I.	360	365
33.	P.V.	350	360
34.	D.V.	360	365
35.	C.S.	450	450
36.	M.G.	360	380
37.	I.C.	360	350
38.	I.N.	350	380
39.	P.G.	360	400
40.	T.N.	400	410

For tests carried out, we have established the following criteria: unsatisfactory (NS) for rotations between 310 - 340°, satisfactory (S) between 341 -

349°, good (B) between 350 - 360°, very well (FB) between 361 - 450° and excellent (E) between 451 - 720°.

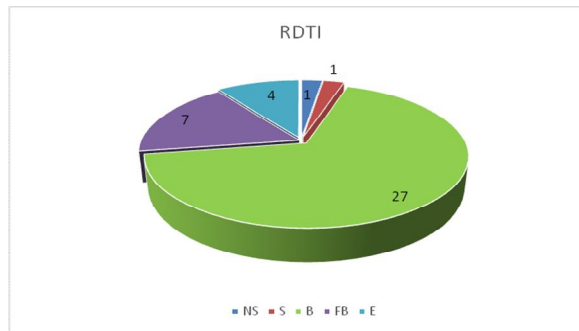


Figure 1. Initial testing vault rotation right

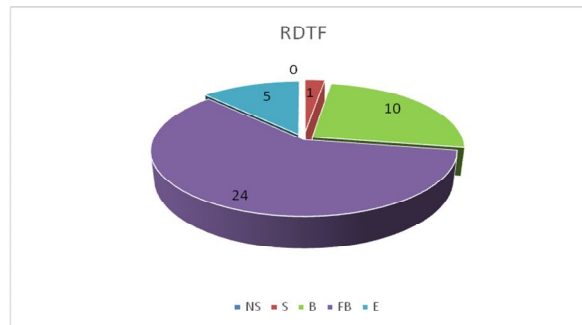


Figure 2. Final testing for jumping right rotation

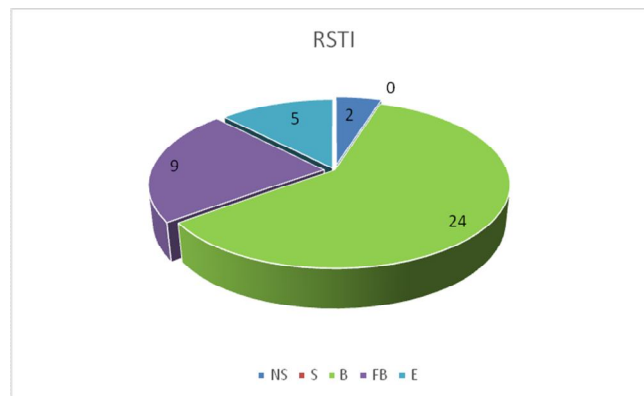


Figure 3. Initial testing vault rotation left

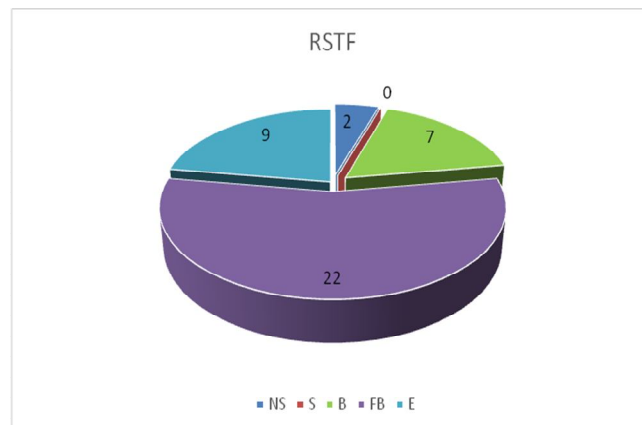


Figure 4. Testing vault final rotation left



Discussions

To turn right, the first two criteria have not been no change in the two tests. Initial testing rotation executed well 60% of subjects and 17.5% final testing, very good 22.5% to 55% on initial testing and final testing. Initial testing have excellent rotation executed 12.5% of subjects and 22.5% final testing.

For left rotation, rotation initial testing poorly executed 2.5% of subjects and 0 to final testing. On the second criterion has not been any change in the two tests. Initial testing rotation well executed 67.5% of subjects and 25% final testing, 17.5% good and 60% from initial testing to final testing. Initial testing executed excellently rotation 10% of subjects and 12.5% final testing.

Conclusions

After the experiment there is an improvement in the values obtained in final testing, this being due to preparing people tested during classes conducted at the sport and physical therapy.

Acknowledgements

Thank you for all of subjects who participated in my experiments.

References

- Buțu IM, 2015, Rhythmic Gymnastics - general basis, Bucharest: Romania Foundation for Tomorrow.
- Dragnea A, Mate Teodorescu S, 2002, Sports Theory, Bucharest, Ed Fest.
- Epuran M, 2005, Research Methodology corporal activities, Bucharest, Ed Fest.
- Manno R, 1982, La teoria dell'allenamento di fronte allo sport per tutti. Atti del convegno Sport per tutti, Coni Promozione sportiva, Roma
- Șerbănoiu S, 2002, Coordinative capabilities in professional sports Bucharest: AFIR.
- Teodorescu AS, 2012, Theory of physical education and sports, Bucharest: Romania Foundation for Tomorrow.
- Tudor V, 1999, Coordinative capabilities and Intermediates - components of driving ability, Bucharest: Coresi.