

TESTS FOR MEASURING THE ANTICIPATION CAPACITY OF THE SPORTSMEN

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Key words: attention, anticipation, visual analyser, audio analyser

Summary: For a better mental balance to be in a perfect harmony with the environment you can develop the anticipation capacity of the changes in motions, the power to act correctly in every situation.

A sportsman must move himself daily and react to movements more and more difficult. This repetition is a type of exercise that is meant to release the intuition, to get the mind and body working all the time, with no interruption. This type of exercise gives the one that does it a feeling of identification of himself with the activity he does, gives him some reflexes, so he becomes able to execute any movement in a time before his opponent.

Introduction: In order to get success in any competition, we need to work constantly three types of activities. Technical abilities can be defined as summing up the next characteristics: speed, flexibility, correction, strong positions, body dynamics, power, strength, breath control. Tactics abilities are abilities used to realise definite and realistic purposes in order to end up an activity. Strategic abilities can be defined as the ability to anticipate and apply different plans. In order to develop the strategy we need technical and tactic abilities and a attention to the opponents.

Attention as an indicator of anticipation

Attention is frequently associated with performance. According to Th. Ribot "attention is an intellectual monodeism that is associated with a spontaneous or artificial adaptation of the man". On the bases of an awaking state the watchfulness state appears when the man realises an unspecific exploration of the environment, waiting for something unknown; a high degree of physical tension it is specific to this state, due to a strongest activation of the cortex, for preparing a quick reaction no matter how or where is the stimulus. During a competition the

sportsman must focus on their opponents and maintain this attention until they get a connection between each other. The easiest way to know the opponent is by using emotions. Emotion is the most efficient instrument to transmit the message. An important part in the voluntary attention is the mental command based on a motivational reason. "I must act on the right side of the field, I must be careful to the high player's blocks, I must pay attention to the attacks came from the right side".

A special form of voluntary attention is the expected attention. This is felt before, this aspect is known or hint by the sportsman due to his previous experiences, training b experiences. The expected attention represents a preparing phase during which is reminded a foreseen or supposed event, this real event is just a reinforcement of the previous representation. The sportsman can read with a second before the opponent's next movement and he can initiate an action to block himself, to finish or score and win. A good training will give you the opportunity that can lead the opponent to do what you want, and the anticipation will be surer. You can give him free areas waiting for him to attack first, when he is on the most vulnerable point, you act quickly to perform the action.

Anticipation and cortex areas

On the parietal side of the cerebral cortex's big hemisphere it is the motion area. It is connected with all the cerebral cortex's areas including the cortex of all the analysers. This link gives the opportunity to the excitation, which occurred in one of cortex's areas, to touch the motion area and produce a similar process. The information contained in the analyser, which reached the motion area is acting like a start for motion. Getting the information the motion cells of the cerebral cortex can give the signal for motion. In this way the link between the motion area of the cerebral cortex and the other areas in the brain represents a premise for motion and a conscious act from the player. Pavlov said "the spontaneity of the movements is a result of the whole encephalon cortex's work.". Based on his past experience man predicts the future influences on the nervous system. From the signal sent to the brain, it restores the whole system of nervous connections, the whole system of associations, realised by repeating the performance many times.

The human's anticipation system of real action is far better than to the animals. At human it reestablishes the whole system of nervous connections based on the minimum excitability and far away from the content. In this way the controlled behaviour is a result of the multiple

cerebral 's physiological processes interaction and the influence of the environment.

The experiment- the method

The work's objective: In this work my intention was to measure the anticipation using four types of tests about visual acuity and audio acuity. The measuring was done by applying the four types of tests: "Touch-visual", "Touch- audio", "Rolling down the ball- visual", "Rolling down the ball- audio".

The hypothesis: I started from the idea that the attention is the one that conditions the sports results and not only. Anticipation as a part of attention doesn't have specific tests for measuring the individual performances. As a result, I considered that I need to do some tests in order to see the differences between each sportsmen.

The methods used: test method, observation, experiment, graphic-table method, video method

The experiment: In realising this experiment, I tested 10 students from "Ștefan cel Mare" University from Suceava, players of different sports: handball, basketball, volleyball, wrestling. The materials I used: videoprojector, online chronometer, laptop, basket ball and a touchscreen phone.

In the touch-visual test (see fig. 1) the student is in front of a chronometer, and during 10 seconds he has to have a speed reaction and anticipate the moment when the time is close to 0. In the touch-audio test (see fig. 2), the student has to perform the same thing, just listening the counting from 10 to 0, without seeing it. He must anticipate and press the button as close to 0.

The other two tests Rolling down the ball visual and audio (see fig. 3 si 4), each student stays behind a start line holding a basket ball. The chronometer is projected on a wall and starts the counting from 10 to 0, in the meanwhile the student has to decide and anticipate the time when he release the ball to roll for about 10 metres, the ball has to reach the finish line as close to 0, as possible. The same test is applied, but this time the chronometer it is not projected, the student has to listen to the counting anticipating the same thing. The tests were applied twice for each of the 10 students.

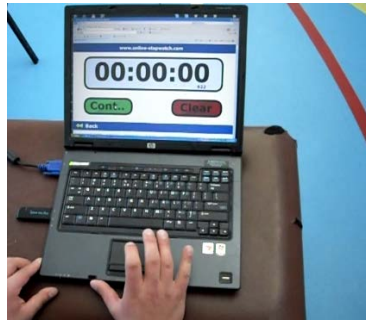


Fig.1 touch-visual



Fig.2 touch-audio



Fig. 3 Rolling down the ball – visual



Fig.4 Rolling down the ball - audio

The tests results:

After we analysed the experimental results obtained, we can notice that after applying the tests we discovered that the anticipation is conditioned by the type of the stimulus. Precisely the difference between the visual stimulus and the audio stimulus according to the graphic, is in favour for the audio one, the visual analyser is responsible of 90% from the information we receive. This situation diminishes the individual anticipation capacity with about 10%. We can also notice that anticipation is developed quickly being conditioned by the previous experiences as at a second performance over 85% of players had obtained a better result.

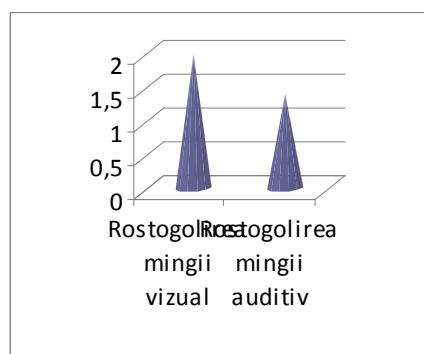
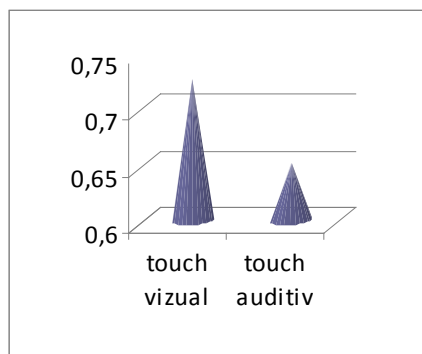


Fig.5 Comparing between "touch" tests Fig. 6 Comparing the rollings of the ball

Table 1. Results of tests „touch visual” and „audio - touch” in 10 seconds.

Nr. crt	Name and surname	Test 1 Touch – visual 10 seconds			Test 2 Touch – audio 10 seconds		
		Rez. 1	Rez. 2	Media	Rez. 1	Rez. 2	Media
1	M. M	1.32	0.688	1.004	1.902	0.760	1.331
2	S. B.	0.771	0.68	0.725	0.954	Overfulfilled	-
3	G. R.	1.202	1.1	1.151	1.516	0.984	1.250
4	M. M.	0.790	0.644	0.717	0.504	0.549	0.526
5	M. B.	0.830	0.138	0.484	0.375	0.187	0.281
6	G. V.	0.122	Overfulfilled	-	0.454	Overfulfilled	-
7	R. R.	0.989	0.770	0.879	1.593	1.187	1.390
8	R. D.	1.441	1.265	1.353	1.91	0.157	1.033
9	B. V.	0.622	0.695	0.658	0.438	0.94	0.689
10	L. V.	0.355	0.221	0.288	0.231	Overfulfilled	-
		Average		0.725	Average		0.650

Conclusion

Recording the individual results of the players involved in the experiment, we've noticed that in the second testing the players obtained better results, this indicates that the anticipation can be developed by repetition and confirmed us that the tests can be applied to other researches or for selecting the players.

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Titlu: Teste pentru măsurarea capacității de anticipare a sportivilor.

Cuvinte cheie : atenție, anticipare, analizator vizual, analizator auditiv.

Rezumat: Prin îmbunătățirea echilibrului mental și armonizarea cu cele din jur, poți sa-ți dezvolti capacitatea de anticipare a schimbărilor în mișcare, stăpânirea de a acționa corect oricând în orice situație.

Un sportiv este obligat zilnic să se miște și să reacționeze cu mișcări din ce în ce mai dificile. Această repetiție este o formă de exercițiu menită să declanșeze intuiția, să aducă mintea sau corpul în stare să funcționeze fără discontinuitate, fără reflecție sau întrerupere. Acest exercițiu repetat mereu și mereu îi conferă practicantului o stare unică de indentificare cu activitatea pe care o desfășoară, îi creează reflexe devenind capabil să execute orice mișcare cu o fracțiune de timp înainte față de adversarul său.

Titre: Testes pour mesurer la capacite d'anticipation des sportifs.

Mots-clés : attention, anticipation, analisateur visuel, analisateur auditif

Résumé : On peut développer la capacité d'anticipation des échanges de mouvement, la maîtrise d'actionner correctement en toute situation par l'amélioration de l'équilibre mental et l'harmonisation avec l'entourant.

Chaque jour, un sportif doit faire du déplacement et réactionnaire par des mouvements de plus en plus difficiles. Cette répétition est une forme d'exercice pour déclencher l'intuition, faire

l'esprit et le corps fonctionner sans discontinuité, sans réflexion ou interruption. Cet exercice répété toujours, donne au pratiquant un état unique d'identification avec l'activité qu'il déroule, il lui crée des réflexes pour devenir capable d'exécuter quelque mouvement avec une fraction de temps avant vis-à-vis de son adversaire.