Progress on this test, the experimental group there is an improvement in the average level of 0.27 seconds, 0.12 seconds in the control group respectively. The rate of progress in the experimental group, two times higher than the control group performed, show that this test, in which the main components are focused on driving the ball through cones, pulled at the gate fast return at home and resumption path another 5 times with breaks of 10 seconds between repetitions, all made in speed and insufficient time for full recovery to resume the effort, the results are relevant and demonstrate the effectiveness of the proposed program and applied sports training to junior footballers of 17-18 years undergoing research.

CONCLUSIONS

In conclusion, the analysis indicates technical training of junior footballers 17-18 years found at the end of the pedagogical experiment have been significant advances in the experimental group compared to the control group if they had evidence besides the technical component and the "resistance". Technical evidence that there are significant differences ball 5x30 m and sample management complex, the statistically average difference between the two groups ultimately proved to be reliable ($P<0.01$ or $P<0.001$).

Comparing the differences between environments with proven results 17-18 junior footballers from control group and the experimental group, it highlights the best progress in the experimental group, especially in technical tests that determine the quality of driving resistance development due to the proposed methodology and applied in athletic training components of the experimental group.

The exercises used in training players experimental group were conducted in conditions of play, technical elements are practiced in soccer specific effort regime. Data from the present research confirms the hypothesis that the use of methods and exercises for developing specific resistance leads to optimization of technical training to juniors 17-18 years.

REFERENCES

1. Colibaba Evuleț D., Bota I., Jocuri Sportive. Teorie şi Metodică, Bucureşti: Aldin, 1998, 320 p.

2. Constantinescu D., Honceriu C., Enache P., Fotbal. Teoria jocului, Ia□i: Cantes, 2004, p. 50-53, 141 p.

3. Dragnea, A., Mate-Teodorescu, S., Teoria sportului, Bucureşti: FEST, 2002, p.155, 610 p.

4. Dumitrescu Gh., Fotbal. Tehnica jocului. Pregătirea tehnică, Oradea: Ed. Universită□ii din Oradea, 2006, p. 168-173, 254 p.

5. Manno R., Pregătirea sportivă la copii şi adolescenți, Bucureşti: Sportul de performanță, nr.102 (1), C.C.P.S., 1996, p.60.

6. Motroc I., Fotbalul la copii şi juniori, Bucureşti: Ed. Didactică şi Pedagogică, 1996, 286 p.

7. Motroc I., Fotbal de la teorie la practică, Bucureşti: Ed. Rodos, 1994, 186 p.

8. Nicu A., Antrenamentul sportiv modern, Bucureşti: Ed. Editis, 1993, 531 p.

9. Oancea V., Fotbal - Aspecte teoretice, Braşov: Ed. Universită□ii Transilvania, 2004, p. 70-76, 89 p.

10. Simion G., Aprecierea nivelului pregătirii tehnice a fotbaliştilor juniori 17-18 ani. În: Cultura Fizică: Probleme ştiințifice ale învățământului şi sportului. Materialele Conferinței ştiințifice internaționale a doctoranzilor. Ediția a VII-a, Chişinău: USEFS, 2012 p.160-167.

AUXILIARY EQUIPMENT FOR PREPARING SKILLED RUGBY PLAYERS

Vasile TABIRTA

State University of Physical Education and Sports, Republic of Moldova

Abstract

Physical Preparation rugby game is sporting decisive factor dispute a match or sporting confrontations. A relatively new trend in physical training, including sports games, is the application of devices supporting that in recent years increasingly used at all stages of sports training. This paper presents the results of the physical performance of rugby players in the supporting apparatus applying their training.

Key words: *rugby, players, equipment.*

One of the key moments in training of rugby players of any level, is the application of the correct methodological means all specific to increase their level of sports training [Badea D., 2003; Constantin V., 2002; Joubert R., Groenewald B., 1998; MC Gratli D, 1995; Холодов Ж.К., Варакин Б.А. Петренчук В.К., 1984].

The motric exercises in any sport trial, including sports games, is the decisive sports factor in a played match or sporting confrontations. This refers

at rugby too, which in recently has become one of the most popular games among the youth. This sports trial is in the experts' sight and is expected to be included in the largest international forum program such as the Olympic Sports.

A relatively new direction in preparing for motric exercises, including sports games, is applying the auxiliary equipment, which in recent years are more often used in all stages of sports training. [Larionescu V., 2002; Гынку Г.К. 1986; Капацина Г.А., 199]. This also refers to the game of rugby, which has found widely national and international amateurs at all levels.

In this case, a pedagogical experiment was organized at the standard of the Senior Championship of Moldova team, where an experimental methodology was applied using auxiliary equipment in the training of RC "Blue marine" team and it is called "the experimental team". UTM team (Technical University) was taken as a "blank team", which has the same level and similar conditions of training.

Based on the proposed experimental program, the athletes of the experimental team (RC Blumarine) applied in the sports training the auxiliary equipment presented in chapter two of this study. These were applied differently depending on the role of athlete's game play and his physical preparation.

After a year of training, the athletes from the "experimental team", as well as those from the "blank team" were trialed at the beginning and end of the annual training cycle for more quality exercise such as: speed run 100 m; endurance race 3 minutes; weight pushing from a prone position (kg); fixed bar pull ups (amount); squats (kg); Australian trial (m) (Table 1 and 2).

Trial results were statistically processed and compared between the blank and experimental teams, as well as depending on the role played, like striker and defender. They are presented in section given below in tables and figures.

Table 1. Results of motric exercises of rugby players, participants in the pedagogical experiment (strikers; UTM: n=12; Blumarine: n=12)

Nr. crt.	*Trials*	*teams*	*Initial indices* $X \pm m$	*Final Indices* $X \pm m$	*Statistics*	
					t	*P*
1.	Speed Run 100 m (s)	E	13,60±0,11	13,1910,08	4,77	< 0,001
		M	13,65±0,11	13,47+0,10	2,00	>0,05
		t	0,33	2,15	-	-
		P	>0,05	<0,05	-	-
2.	Endurance 3000 m (s)	E	834,50+13,47	786,8519,93	4,52	< 0,001
		M	842,02±13,25	818,35111,43	2,21	<0,05
		t	0,40	2,08	-	
		P	>0,05	<0,05	-	
3.	Weight pushing from a prone position (kg)	E	105,20±2,21	112,87+1,87	4,31	< 0,01
		M	104,80±2,22	106,5212,18	0,91	>0,05
		t	0,13	2,21	-	
		P	>0,05	<0,05	-	-
4.	Fixed bar pull ups	E	7,90+0,30	9,1610,24	5,25	< 0,001
		M	7,81±0,29	8,35+0,28	2,25	<0,05
		t	0,21	2,19	-	-
		P	>0,05	<0,05	-	-
5	semi squats with weights (kg)	E	139,60±3,54	153,4213,03	4,85	< 0,001
		M	140,0013,55	143,4713,55	1,14	>0,05
		t	0,08	2,13	-	-
		P	>0,05	<0,05	-	-
6	Australian trial (m)	E	657,30+7,07	689,0316,24	5,51	< 0,001
		M	656,00±7,09	669,5316,80	2,27	<0,05
		t	0,13	2,11	-	-
		P	>0,05	<0,05	-	-

Note: E – experimental team (Blumarin); M - blank team (UTM)

Table 2. Results of motric exercises for rugby players, participants in the pedagogical experiment (3/4; UTM: n=12; Blumarin: n=12).

Nr. crt.	*Trials*	*teams And statistics*	*Initial indices X ±m*	*Final Indices X ±m*	*Statistics*	
					T	P
1.	**Speed Run 100 m (s)**	**E**	**13,51+0,10**	**13,17±0,08**	**4,25**	**<0,01**
		M	**13,58±0,11**	**13,45±0,10**	**1,44**	**>0,05**
		t	**0,77**	**2,15**		**-**
		P	**>0,05**	**<0,05**	**-**	**-**
2	**Endurance 3000 m (s)**	**E**	**844,00±13,51**	**792,28±10,16**	**4,88**	**< 0,001**
		M	**851,15±13,60**	**826,64±11,88**	**2,22**	**>0,05**
		t	**0,37**	**2,17**		
		P	**>0,05**	**<0,05**	**-**	**-**
3	**Weight pushing from a prone position (kg)**	**E**	**103,25±2,23**	**112,30±2,06**	**4,89**	**< 0,001**
		M	**101,80±2,24**	**106,00±2,20**	**2,21**	**<0,05**
		t	**0,46**	**2,09**		
		P	**>0,05**	**<0,05**	**-**	**-**
4	**Fixed bar pull ups**	**E**	**7,85±0,31**	**8,91±026**	**4,24**	**<0,01**
		M	**7,77+0,30**	**8,08±0,29**	**1,24**	**>0,05**
		t	**0,19**	**2,13**		
		P	**>0,05**	**<0,05**		**-**
5	**semi squats with weights (kg)**	**E**	**114,10±3,88**	**127,65±3,15**	**4,38**	**<0,01**
		M	**113,90±3,72**	**117,61±3,60**	**1,18**	**>0,05**
		t	**0,04**	**2,10**	**-**	**-**
		P	**>0,05**	**<0,05**		**-**
6	**Australian trial (m)**	**E**	**657,20±7,08**	**681,26±6,51**	**4,11**	**<0,01**
		M	**653,80±7,10**	**660,58±7,09**	**1,13**	**>0,05**
		t	**0,34**	**2,15**	**-**	**-**
		P	**>0,05**	**<0,05**	**-**	**-**

Note: E - experimental team (Blumarin); M - blank team (UTM).

As a result at the first trial: speed run 100 m at the start of the pedagogical experiment the average of the attackers were mostly equal ranging between 13,60s and 13,65s, so at the end of the experiment grew to 13,19s for the experimental team and 13,47s for the blank team. According to statistical calculations a significant increase was applied only for the experimental team ($p<0,001$), as for the blank team the results improved, but they statistically have an insignificant viewpoint ($p>0,05$).

With about the same tendency, but with other results have demonstrated the defenders (3/4), as strikers at the beginning of the experiment, the results of the both teams (blank and experimental) were almost equal - 13,5s for the experimental team and 13,58s and for the blank team, so at the end of the experiment they reach values of 13,17s for the experimental team, 13,45s for the blank team. Thereby both teams improved, but the improvement rate was more pronounced for the athletes in the experimental team, demonstrated fact and through statistical calculations, rate being of ($p < 0,01$), as for the blank team - ($p > 0,05$). This is quite clearly noticed in the results in the figure form.

Analyzing strikers' ***Endurance (3000m)*** trial results of both teams to observe a similarity between the blank and experimental teams for the beginning of the pedagogical experiment, with the results of 834, 50s for the experimental team and 842, 02s for the blank team.

The same similarity is observed for (¾) players at the start of the experiment, being 844, 00s for the experimental team and 851.15s for the blank team.

Thereby, at the end of the experiment, the following results for strikers at Endurance (3000m) trial - 786.85s for the experimental team and 818.64s for the blank team. An insignificant increase was noticed in both teams, experimental team $p<0,001$, blank team $p<0,005$.

The same insignificant increase was noticed for players (¾) of both teams. According to the statistical calculations we observe the following results: for experimental team -792,28s, $p<0,001$, and for blank team -826,64s, $p<0,005$. This is caused by applying the same methods and means for both teams to increase endurance.

Regarding the physical trial, **Weight pushing from a prone position**, there is a similarity of initial indices of both teams of the experiment, the results being: 105,20 kg for experimental team; 104,80 kg

for blank team. As for this trial, we observe an increase of final indices in both teams.
So at the end of the experiment the average results for the experimental team increased up to 112,87 kg and for the blank team up to the 106,52 kg. According to the statistical calculations a significant increase was only for the experimental team ($p<0,001$), in the case of the blank team, although results improved, it's statistically insignificant ($p>0,05$).
In this trial for players (¾) the average results at the beginning of the experiment was approximately ranging between 103,25 kg and 101,80 kg, but at the end of the experiment there is an increase of the indices in both teams up to 112.30 kg experimental team and 106 kg blank team. According to statistics there has been a slight increase in both the experimental team ($p<0,001$) as well as in the blank team ($p<0,05$).
Regarding the physical trial, **Fixed bar pull ups**, we also observe a similarity between teams, the initial results of the strikers of the experimental team - 7, 90 times and 7, 81 times for the blank team. According to statistical calculations we observe an increased results at the end of the experiment for both teams, but of the negative significance. So the experimental team recorded an average of 9,16 times, $p<0,001$ and the blank team an average of 8,35 times where $p<0,05$.
As well was noted a similarity for at the beginning of the experiment for players(¾)with the following average results for the experimental team of 7,85 times and 7,77 times for the blank one. What affects the average results of the pedagogical experiment at the end of the experiment, we notice an improvement for both teams based on the statistical calculations.
Such a significant increase was recorded only for the experimental team, having the results of 8,91 times, where $p<0,01$, and for the blank team, although the results have improved, they carry a character statistically insignificant having the average result of 8,08 times, where $p>0,05$.
For the physical trial, **semi squats with weights,** from strikers, the average at the beginning of the pedagogical experiment is about equal, ranging between 139,60 kg for the experimental team and 140,00 kg for the blank team, as for the end of the experiment they grew up to 153,42 kg for the experimental team; 139,47 kg for the blank team.
According to statistical calculations the increase is only significant for the experimental team($p<0,001$), as for the blank team even thought it has improved results, it carries a statistically insignificant character ($p>0,05$).
About the same we notice for defenders, (¾), whereas at the beginning of the experiment average results in both teams were about equal: for the experimental team -114,10 kg and 113,90 for the blank team.
Thereby, at the end of the experiment, results reached values of: 127,65 kg for the experimental team; 117.61 kg for the blank team, despite both teams and improved final results, the growth was pronounced for athletes in the experimental team. Statistically, this increase was significant only in case of the experimental team ($P<0,001$), as for the blank team, although the results improved, they carry an insignificant value ($P>0,05$).
For the **Australian trial,** at the beginning of the experiment the average of strikers' was about equal, varying between 657,30 m - experimental team and 656,00 m - blank team. According to the statistical calculations, we observe an increase at the end of the experiment in both teams, but the results of the experimental team were more pronounced (689,03 m) compared with the blank team averages, although in both cases the statistical calculations showed significant increases ($P<0,05$).
In case of the defenders (3/4), at the beginning of the experiment was recorded the same similarity for both teams, their results are approximately equal, which covered 657,20 m for the experimental team and for the blank team - 653,80 m. At the end of the experiment also we observe an increase of average results for the experimental team - 681,26 m and blank team - 660,58 m.
Based on the statistical calculations significant improvements are recorded only for the experimental team ($P<0,001$), as for the blank team, although the results have increased, they carry an insignificant character in terms of statistical calculations ($P>0,05$).
Thus, analyzing results of the rugby players' participating in the National Championship related to motric exercises preparation, a clear trend of improvement in all contingent trials indicated in the research subject. At the same time there is a noticeable performance difference in this respect when it comes to role played by the athletes. Stickers' recorded better results in trials related to the qualities of strength exercises (weight pushing from a prone position , semi squats with weights), while defenders (¾) were higher in samples related to speed (speed run at 100 m), arm strength (Fixed bar pull ups), endurance (endurance run 3000m and the Australian trial). This is mainly due to stickers' are the players with a higher weight class compared to defenders (¾), which is not possible to achieve high results in the speed and strength trials. At the same time, defenders (¾) are those players who, after their body type to attain relatively large distances through high speed, also demonstrating all the special strength qualities.
An impressive difference of results is seen among the averages for players in the experimental team and in the blank team, where the first was obviously higher due to the implementation of the proposed experimental research methodology at the beginning of the experiment, this is mainly about

the application of auxiliary equipment in the training of rugby players of the experimental team. This once again demonstrated the effectiveness of the proposed methodology in attaining athletic performances, in our case rugby players' performance.

REFERENCES

- *Badea D. Rugby,strategia formativă a jucătorului. Bucureşti: Editura FEST,2003. 164 p.*
- *Constantin V. Rugby,specializarea posturilor. Bucureşti: Editura FEST,2002.*
- *Joubert R., Groenewald B. Principles for Successful Coaching, NTRU Rugby-Akademie, 1998. -210 p.*
- *Mc Gratli D, 101 Rugby Training Drills. London: Ed. Life Sports Ltd,. 1995.*
- *Холодов Ж.К., Варакин Б.А. Петренчук В.К. Основы подготовки регбистов.- М.: ФиС, 1984. - 188 с.*
- *Larionescu V. Aparate ajutătoare în volei. Suceava, Revista de inventică, 2002 vol. VII, nr.36, p. 4 - 6.*
- *Гынку Г.К. Совершенствование технической подготовленности волейболистов путем применения нетрадиционных средств тренировки: Автореф. Дис…канд. пед. Наук. Минск,1986, -154 с.*
- *Капацина Г.А. Начальная подготовка гандбалистов 10-11 лет с применением тренажорных устройств в обучении и тренировке. Автореф. Дис. …канд. пед. Наук. Киев, 1991,*

IDENTIFICATION OF SOME TECHNICAL PARTICULARITIES IN WEIGHTLIFTING ATHLETES

Marian Daniel TEODORU, Daniel Constantin MURĂREȚU

National University of Physical Education and Sport, Bucharest, Romania

Abstract

Among the most important elements of the barbell lifting technique, we can mention the positioning of athletes' soles on the competition platform. This technical element is called the initial or starting position and represents the first element of the barbell lifting algorithm. In this research, we shall try to identify (through measurements), in performance (world class) athletes, the position and the stability of their soles on the support surface, in relation to sports performance.

Keywords: *identification, technical particularities, weightlifters*

INTRODUCTION

The technique joins together the procedures and the means that assure the materialization of each weightlifter's potentialities [1]. It is well-known that in weightlifting there are two styles for the barbell lift, namely the snatch and the clean and jerk. Each style is characterized by structures and, respectively, movements through which the proposed objectives can be efficiently fulfilled. On the one hand, the succession of phases composing the style structure and, on the other hand, anything that accompanies this structure (the biological, psychic, biomechanical and physiological aspects) contributes to the achievement of the expected results [2], [3].

Among the most important technical elements of the barbell lift, we can mention: the starting position, the bar pulling, the lunge, the body rising upward after lunge, the bar holding overhead, the bar lowering etc. [4]. In exchange, their objectivization remains a constant preoccupation in the activity of any specialist in the field [5]. The present paper valorizes, on the one hand, the experience of some top performance athletes and, on the other hand, some observations made by the authors of this study. Thus, through this paper, we shall try to identify some correlations between the sole position and stability on the support surface and the sports performance.

RESEARCH DESIGN

Purpose

In this research, we shall try to identify (through measurements), in performance (world class) athletes, the position and the stability of their soles on the support surface, in correlation with sports performance (regarded from the sports class point of view).

Methods

In order to conduct our research, we selected 4 athletes (boys), performers, class: master of sports.

The athletes were aged 26 to 34 years old and had a sports experience comprised between 13 and 26 years. All of them were weightlifters belonging to the Steaua Sports Club of Bucharest.

The research was developed on many stages: subject selection; athletes' participation in a