

**Original scientific paper****ORIGINAL SCIENTIFIC PAPER****Saša Jovanović**

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**UDK: 796.412→793.3**

DOI: 10.7251/SHT1302042J

**DISTINCTIONS IN THE SPEED IN ACQUIRING ELEMENTS OF SPORTS  
AND RHYTHMIC GYMNASTICS AND ELEMENTS OF DANCE****SUMMARY**

The way in which some individuals learn and adopt the curriculum already have been investigated and classified. However, the speed of adoption of an element or part of the material is one of the assumptions of adoption records. Of course, also the time limits in the form of a limited number of hours which provided for the study should be taken into account, and the complexity of the elements that are studied in cases 1 and 2 Gymnastics, Rhythmic Gymnastics and Dance. This study was conducted on a sample of 67 students, aged between 19 and 21 years, with the aim of determining the rate of adoption adopting elements of sports and rhythmic gymnastics as well as elements of different dances for possible changes in the order of training in the learning process (by academic year) following the principle of from easier to more difficult. In this study, three variables were used in gymnastics, three variables of rhythmic gymnastics and three variables from dances. Analysis of variance showed that only few attempts is needed to adopt elements presented on the floor (rhythmic gymnastics) and vault , balance beam and floor exercise (gymnastics), and a variable - jive dance, than to adopt the remaining elements of rhythmic gymnastics and dance . This research highlighted the need to consider the sequence of training, not only elements of sports and rhythmic gymnastics and dance, but also the realization of the contents of these objects in different academic years, and the need to carry out research of this kind, for the more effective delivery of teaching and education of higher quality for future teachers of physical education.

**Key Words:** *sports gymnastics, rhythmic gymnastics, speed adoption*

**Introduction**

Sports and rhythmic gymnastics and dances belonging sports acyclic character with pronounced aesthetically component. Characteristics of action on certain motor skills as well as symbiotic way of acting in accordance with the development of time-spatial form contribute to a general and all-embracing development of motion capabilities. Amenities gymnastics can be shared on an exercise apparatus, exercises on the floor and jump. Exercise apparatus includes a variety of specific elements but the musical accompaniment to the propositions used only when performing exercises on the floor - where the girls may contain only instrumental performance tunes.

Rhythmic Gymnastics provides various simple and complex movements which are performed without and with different props (balls, jumping rope, cones, hoops, ribbons, veils and so on.) that tentatively characterized and design of individual elements. Dances performed solo or in pairs were observed most frequently different musical background seeking a good knowledge of technology trends and relationships to the time and form to achieve good results during the actual implementation. It is these features rhythmic and artistic gymnastics and dance are the objects of study and training at the university, where the difficulties encountered by students in the adoption of certain elements. According to the current curriculum of all subjects are taught in the same academic year. The study was conducted in order to determine the speed of adoption of elements of sport and rhythmic gymnastics and dance for possible changes the order of training in the learning process (by academic year) following the principle of easy to more difficult.

#### Methods

The research was conducted at the beginning of the 2011/12 school year, as part of the diagnostic and gymnastics cabinet and cabinet for rhythm and dance. The sample used is selected from the student population of Banja Luka Faculty of Physical Education and Sports, who are regularly enrolled the first year of the program and did not have classes in gymnastics, rhythmic gymnastics and dance. In order to ensure the representativeness of the sample was selected in a sample of 67 students, aged between 19 and 21 years, who have not actively engaged in sports and rhythmic gymnastics and some of the aspects of dance. For the purposes of this study included the three variables of gymnastics ( overshoot contorted performed on horseback ; cartwheel foreigners performed in the orchestra on both sides , walking with a half squat and turn the squat performed on the beam ) and 3 variables in rhythmic gymnastics ( first variable - combination cornstalks step forward and children's viper performed on the floor on both sides of the rhythm of TE - TA TA TA TA -TE ; another combination waltz Pas de bourree performed on the floor to the beat of TE - TA- TI and third steps forward with a combination of high rise and placing feet in front of body performed on the beam on both sides of the rhythm of TA TA TAA ) . Variables of dance predicting the performance of the basic steps of cha cha cha (SASE pace with advances taken out back and forth to the rhythm of TE - TA TA TA TA), Jive (a combination of modified cornstalks steps to step back performed to the rhythm of TA TA TA -TE - TA) and the basic steps to bebop (moving back and forth with tep step in time (TE - TA TA TA). Given that the basic elements of the sport, and rhythmic gymnastics and dances that they have found their place in the curriculum of physical education in schools, such as were used for the variables in this study. A demonstration after the respondent had 10 attempts to bring elements, and is rated by the three-member commission. Fewer attempts brought about the rapid adoption of a given element. Data were analyzed by statistical package SSPRS 17.0, and used statistical analysis of variance - ANOVA.

#### Results

Table 1 Basic statistical parameters estimated speed of adoption of different rhythmic structures of Sport Gymnastics, rhythmic gymnastics and dance

		AM	SD
Sportska gimnastika	Preskok	3.28	2.740
	Greda gim	4.58	2.835
	Parter gim	4.64	3.911
Ritmička gimnastika	Parter rtg	9.39	2.944
	Parter rtg 2	3.25	2.699
	Greda rtg	6.36	3.189

Plesovi	Čačača	7.39	3.321
	Džajv	4.25	3.207
	Bi bap	5.72	3.797

Looking at the mean speed of adoption of various elements of gymnastics can be said that the respondents adopted the fastest element on a horse with a slightly lower mean value of 3:28, indicating a lower average number of attempts that were required for the adoption of the aforementioned elements. Arithmetic mean value of the average number of attempts remaining two elements of the beam and floor exercise proved to be relatively close to realizing the value of 4:58 and 4.64, respectively. As far as the speed of adoption of elements of rhythmic gymnastics has been shown that respondents on average the fastest adopted waltz Pas de bourree like element on the floor 3.25, then the elements of the beam with the average number of attempts until 6.36 the performance elements of rhythmic gymnastics on the floor asked for the greatest number of attempts 9.39. The results that are achieved by adopting subjects variables of dances suggests that jive fastest adopted 4:25 attempts and that they needed something more trials, on average, to be bap 5.72. Weakest was recorded cha cha cha adoption of basic steps for them, which is an average of 7:39 attempts.

Table 2 The results obtained using the analysis of variance

(I)	(J)	(I-J)	SD	Sig.	95% Interval trust	
					Lower limit	Uper limit
Presko k	greda gim	-1.299	.431	.132	-2.738	.141
	parter gim	-1.358	.565	.688	-3.246	.529
	parter rtg	-6.104*	.457	.000	-7.629	-4.580
	parter rtg2	.194	.430	.963	-1.242	1.630
	greda rtg	-3.209*	.504	.000	-4.893	-1.525
	čačača	-4.104*	.523	.000	-5.849	-2.359
	džajv	-.970	.484	.928	-2.584	.644
	bi bap	-2.433*	.539	.001	-4.232	-.634
Greda gim	preskok	1.299	.431	.132	-.141	2.738
	parter gim	-.060	.527	.899	-1.820	1.701
	parter rtg	-4.806*	.388	.000	-6.100	-3.512
	parter rtg2	1.493*	.425	.029	.074	2.911
	greda rtg	-1.910*	.506	.012	-3.601	-.220
	čačača	-2.806*	.490	.000	-4.442	-1.170
	džajv	.328	.492	.911	-1.313	1.970
Parter gim	bi bap	-1.134	.565	.897	-3.019	.751
	preskok	1.358	.565	.688	-.529	3.246
	greda gim	.060	.527	.899	-1.701	1.820
	parter rtg	-4.746*	.497	.000	-6.404	-3.088
	parter rtg2	1.552	.522	.148	-.190	3.295
	greda rtg	-1.851	.583	.082	-3.797	.095
	čačača	-2.746*	.596	.001	-4.735	-.758
džajv	.388	.490	.933	-1.248	2.024	

	bi bap	-1.075	.602	.866	-3.084	.935
Parter rtg	preskok	6.104*	.457	.000	4.580	7.629
	greda gim	4.806*	.388	.000	3.512	6.100
	parter gim	4.746*	.497	.000	3.088	6.404
	parter rtg2	6.299*	.424	.000	4.884	7.713
	greda rtg	2.896*	.438	.000	1.433	4.358
	čačača	2.000*	.510	.008	.296	3.704
	džajv	5.134*	.436	.000	3.678	6.591
	bi bap	3.672*	.492	.000	2.029	5.314
Parter rtg2	preskok	-.194	.430	.963	-1.630	1.242
	greda gim	-1.493*	.425	.029	-2.911	-.074
	parter gim	-1.552	.522	.148	-3.295	.190
	parter rtg	-6.299*	.424	.000	-7.713	-4.884
	greda rtg	-3.403*	.506	.000	-5.094	-1.712
	čačača	-4.299*	.485	.000	-5.917	-2.680
	džajv	-1.164	.444	.389	-2.646	.318
	bi bap	-2.627*	.542	.000	-4.435	-.818
Greda rtg	preskok	3.209*	.504	.000	1.525	4.893
	greda gim	1.910*	.506	.012	.220	3.601
	parter gim	1.851	.583	.082	-.095	3.797
	parter rtg	-2.896*	.438	.000	-4.358	-1.433
	parter rtg2	3.403*	.506	.000	1.712	5.094
	čačača	-.896	.462	.786	-2.438	.647
	džajv	2.239*	.433	.000	.792	3.685
	bi bap	.776	.469	.801	-.789	2.341
Čačač a	preskok	4.104*	.523	.000	2.359	5.849
	greda gim	2.806*	.490	.000	1.170	4.442
	parter gim	2.746*	.596	.001	.758	4.735
	parter rtg	-2.000*	.510	.008	-3.704	-.296
	parter rtg2	4.299*	.485	.000	2.680	5.917
	greda rtg	.896	.462	.786	-.647	2.438
	džajv	3.134*	.412	.000	1.760	4.509
	bi bap	1.672	.528	.084	-.091	3.434
Džajv	preskok	.970	.484	.928	-.644	2.584
	greda gim	-.328	.492	.911	-1.970	1.313
	parter gim	-.388	.490	.933	-2.024	1.248
	parter rtg	-5.134*	.436	.000	-6.591	-3.678
	parter rtg2	1.164	.444	.389	-.318	2.646
	greda rtg	-2.239*	.433	.000	-3.685	-.792
	čačača	-3.134*	.412	.000	-4.509	-1.760
	bi bap	-1.463*	.427	.038	-2.888	-.037
Bi bap	preskok	2.433*	.539	.001	.634	4.232
	greda gim	1.134	.565	.897	-.751	3.019

parter gim	1.075	.602	.866	-.935	3.084
parter rtg	-3.672*	.492	.000	-5.314	-2.029
parter rtg2	2.627*	.542	.000	.818	4.435
greda rtg	-.776	.469	.801	-2.341	.789
čačača	-1.672	.528	.084	-3.434	.091
džajv	1.463*	.427	.038	.037	2.888

The application of analysis of variance (Table 2) obtained results indicate a statistically significant difference between almost all of the variables used. Specifically, showed a statistically significant difference between the variables jump to the variables Parter rtg .000; beam rtg, 000, cha cha cha and .000 to .001 bebop. Statistically significant differences emerged by looking at the relationship variable beam GIM with other variables Parter rtg .000; Parter rtg2 .005; beam rtg .001 and .000 cha cha cha. The third variable gymnastics Parter GIM achieved statistical significance only with variables Parter rtg .000, and cha cha cha .001 excluding the remaining variables. Looking at the relationship of variables rhythmic gymnastics Ground Rd, we see that there is a statistically significant difference with all the variables used and the significance level of .01. Variable Ground rtg2 statistically significantly different from the variable beam GIM .29; Parter rtg .000; beam rtg, 000, cha cha cha bebop .000 and .000 while the others there was no statistically significant difference. It is similar to a variable beam rtg code that is interrelated with the remaining variables showed a statistically significance difference at the level of .005 ( .000 jump ; beam GIM .012 ; Parter rtg .000 ; Parter rtg2 .000 and .000 jive . the variable dance cha cha cha was a statistically significant difference with all the variables at the level of significance of .01 , except for variable beam rays and bebop . jive dance variable statistically significantly different from the variables jump GIM .000 ; beam rtg , 000 , cha cha cha . 000 and bebop .038. Bebop as last variable is significantly different from the variables Vaults .001; Parter rtg .000; parter rtg2 .000 and .038 jive.

#### Discussion

The analysis of data obtained descriptive statistics, we can see that the lowest number of attempts required for the performance of the artistic gymnastics was the performance element of the horse , while the performance element to the other two devices were needed more attempts - a little less performance on the balance beam , but the stalls . These data indicate the rate of adoption of certain elements of rhythmic gymnastics , with notes that it takes the shortest time for the adoption of simpler elements ( waltz step ) based on fundamental Specifically activities ( jumping and walking) , and for the successful implementation of some complex elements (SASE up with the horned viper ) requires activation of a number of motor skills ( Velickovic, S. & Petkovic , E. 2005 , Popovic , B. & Radanovic , D. 2010) . As far as the speed of adoption of basic dance structures smallest number of respondents was to attempt to correctly perform basic step jive ( the structure of shase step up with the back and forth motion ) and the slightly higher number of attempts should be realized by the adoption of the basic steps bebop and cha cha cha. So, when adopting elements of sports and rhythmic gymnastics and dance, it was found that the order of adoption went according to the principle from simple to complex, with what turned out to be an additional factor influencing the performance elements of rhythmic gymnastics and dance the rhythm in which elements are performed. Possible reasons for these results are the age of the respondents, different levels of adoption of the gymnastics

movement and the movement of the rhythmic gymnastics and dance in their previous educational process (teaching physical education in elementary and secondary schools (Moskvljevic, L. & Orlic, A. 2012; Sumanovic M and al. 2005)), and the level of development of motor skills, as well as the similarity of elements with natural forms of movement. Also, the performance elements of rhythmic gymnastics and dance are required to perform a certain rhythm, which is certainly an aggravating factor of respondents. Since moving to the beat, in addition to the inclusion of a number of motor skills, and requires activation of the Center for Hearing and higher nerve centers, it is possible to perform elements of rhythmic gymnastics and dance distracted individual sense of rhythm and familiarity to move to the rhythm and the music (Kocić, J., Tassotti, F. & Marković, E. 2002, Lazarević, LB, Brown, B. & Damjanović, K. 2012, Petković, E. 2004; Sebić - Zurić L. & al, 2008). Analysis of variance indicated indirectly on the order of the speed of adoption of elements where the fastest adopted waltz step on the floor (ground floor rtg2), then overshoot (GIM parter) then element jive dance, gymnastics balance beam (beam GIM), an element of artistic gymnastics on the floor (ground floor GIM), bebop and it follows the element of rhythmic gymnastics on the balance beam (beam X-ray), and the element of dance cha cha cha, and finally the adoption of elements of rhythmic gymnastics chance at pace with the horned viper in the stalls (stalls RTG). Being a smaller number of trials of the first five listed elements, the three variables gymnastics can be assumed that the required fewer attempts to adopt elements of gymnastics, but to adopt elements of dance and rhythmic gymnastics.

#### Conclusion

Based on these results, the assumption is that for more effective training and the quality of knowledge acquisition elements of the students, be desirable to use the variables used in this study to determine the initial level of knowledge of the sport and rhythmic gymnastics and dance, on what basis could be created homogeneous group of students with whom they are to realize their art teaching these subjects. Given that the respondents had a different number of attempts to adopt elements, therefore it would be advisable to consider the allocation of teaching hours allocated for work on the adoption of certain elements, or at least introduced into the regular curriculum of additional classes in which the students were able to perform more trials adoption of the necessary elements. Also, there was a need to consider the sequence of training, not only the artistic gymnastics and rhythmic gymnastics and dance, but also the realization of the educational content of these objects in different academic years. This research highlighted the need to carry out research of this type, for efficient implementation of teaching and educating better trained future teachers of physical education.

#### Reference

1. Kocić, J., Tassotti, F. & Marković, E. 2002, "Ritmička gimnastika, plesovi i njihov uticaj na muzičko-ritmičke sposobnosti učenika mlađih razreda osnovne škole", *Godišnjak Fakulteta sporta i fizičkog vaspitanja*, no. 11, pp. 208-216.
2. Lazarević, L.B., Petrović, B. & Damjanović, K. 2012, "Osobene odlike mladih nadarenih ritmičkih gimnastičarki", *Facta universitatis - series: Physical Education and Sport*, vol. 10, no. 2, pp. 115-126.
3. Moskvljević, L. & Orlić, A. 2012, "Relacije između sposobnosti i stavova studenata i uspešnosti u ritmičkoj gimnastici - polne specifičnosti", *Fizička kultura*, vol. 66, no. 2, pp. 129-137.

4. Petković, E. 2004, "Relacije situaciono-motoričke koordinacije i takmičarske uspešnosti gimnastičarki", *Facta universitatis - series: Physical Education and Sport*, vol. 2, no. 1, pp. 25-33.
5. Popović, B.& Radanović, D. 2010, "Relacije morfoloških karakteristika i koordinacije kod devojčica koje se bave gimnastičkim aktivnostima", *Glasnik Antropološkog društva Srbije*, no. 45, pp. 243-252.
6. Šebić-Zuhrić, L, Manić, G, Bonacin,D& Hmjelovjec, I. 2008,Relacije bazično-motoričkih sposobnosti i stilizovanih kretnih struktura u muškoj ritmičkoj gimnastici, *HomoSporticus (1512-8822)* 10, 1; 18-21.
7. Šumanović M., Filipović V.& Sentkiralji G.2005, "Plesne strukture djece mlađe školske dob", *Život i škola*, LI, 14; 40-45.
8. Veličković, S.& Petković, E. 2005, "Objektivnost mernih instrumenata situaciono-motoričke koordinacije u sportskoj gimnastici", *Facta universitatis - series: Physical Education and Sport*, vol. 3, no. 1, pp. 69-80.

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