

Special aspects of Paralympic athletes' sport activity in the process of self-education

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Abstract

Purpose: to determine and substantiate influence of self-education components of Paralympic athletes' sport activity.
Material: in the research 46 Paralympic athletes form three teams of game kinds of sports participated: combined football, basketball and volleyball teams of Ukraine. The program of self-education process's organization was designed for 9 months and consisted of three stages. Pedagogic program consisted of 9 classes. Optimal time of one training session was 45 minutes a day (in total – 9 days).

Results: we determined the need in consideration of athletes' individual-personality features in organization the self-education process. We also substantiated and experimentally tested correlations, which facilitate: adequate organization of athletes' self-education process; mastering of sport knowledge and skills of behavior in different extreme situations; realization of own potentials in sport and social life.

Conclusions: the structure of athletes' self –education is presented by combination of interconnected components: motivation-personal (motives, demands, settings, moral-will qualities and individual personal features); cognitive (system of knowledge about oneself and sport functioning); activity (formation of skills in self cognition, self-organization and self-control).

Keywords: Paralympic athletes, self-education, sport activity, football, volleyball, basketball.

Introduction

Modern sport is the natural result of human cognitive activity. Achievements of sport sciences, methodic of elite athletes' training, application of it results in other branches are a combination of sports' spiritual values [20, 25, 29, 31].

Involvement of disabled people in sport activity is of great importance for such people and society in general. Adaptive sports facilitate disabled people's integration in social life. Adaptive sports facilitate full opening of potentials for comprehensive development of physical abilities and motor skills. Such activity permits to feel happiness, completeness of life, control over body and overcoming life difficulties as well as to expand social contacts [15, 17, 23, 32].

In sports disabled people have opportunity to self realize and self-perfect. Participation in sports movement facilitates activation of all organism's systems, motor correction and formation of a number of required motor compensations. It is an important factor of disabled people's physical and social rehabilitation [21, 22, 26, 30].

Psychological-pedagogic aspect of Paralympic trainings on all stages requires special attention. Success depends to large extent on Paralympic athlete him/herself: his/her abilities to self-control at competitions, ability to independently cognate own potentials and resources, to plan own activity and distribute reasonably forces and time [14, 17, 19, 28].

It should be noted that personality's education in sports and ordinary life was paid attention to by the following scientists: I. Bekh – education of personality and influence of medium on its formation [2]; V. Voronova – psychology of sports and development of personality under influence of elite sports factors [5]; V. Shuba – psychological-pedagogic aspects of work with disabled people [12]; Y.

Bhambhani – influence of physical training on emotional state of disabled athletes [13].

Searching of means for raising effectiveness of Paralympic athletes' self-education process's organization is presented in the following works: Yu. Briskin – studies in the sphere of adaptive physical culture, which facilitates maximal development of vitality and effective self-realization in society [3, 4]; V. Zhylenkova – formation and development of physical culture and sports for disabled people with muscular skeletal apparatus disorders [6]; R. Chudnaya – aspects of physical education of people, having different heavy disorders of vitally important organism's functions and restricted physical potentials, resulted from diseases or traumas [10]; V. Shuba – special aspects of psychological-pedagogic organization of Paralympic athletes' (with muscular skeletal apparatus disorders) training process [11]; M. Braycich – influence of different level competitions on athletes' psychological individual features [15]; G.R. Coudeville et al. – application of specific strategy of overcoming personal anxiety before competitions [18]; P. Laursen – special aspects of trainings with different intensity levels [27].

That is why, one of new approaches to solution the problem of Paralympic athletes' potentials realization can be analysis of self-education process and its interconnection with different components.

The purpose of the research: is to determine and substantiate influence of self-education components of Paralympic athletes' sport activity.

Material and methods

Participants: in the research 46 Paralympic athletes form three teams of game kinds of sports participated (control group n=24 and experimental group – n=24): combined football, basketball and volleyball teams of

Ukraine.

Organization of the research: control group was trained according to traditional training schedule. Trainings on organization of self-education process, considering pedagogic conditions, were not conducted in this group.

For experimental group we worked out and offered the program of organization of Paralympic athletes' self education. The main purpose of this program was to facilitate athlete's psychological adaptation in training activity and society; ability to open own potentials at competitions of different level.

The program of self-education process's organization was designed for 9 months and consisted of three stages. Every participant was given approximately equal time and opportunity to participate in training process.

Pedagogic program consisted of 9 classes. Optimal time of one training session was 45 minutes a day (in total – 9 days). The program was implemented in training camp period.

Every training consisted of three parts. It complied with the structure of athletes' training process.

Preparatory part took 10-20 % – introduction, warming up, passing to group work. This part was intended at athletes' motivation and organization; their familiarization with topic and preparation to main part. Besides, it facilitated discipline, which ensures safety measures' observation at trainings.

Main part took 70-80% of training session: work in group, topical role-exercises, discussion of results. It depends on aims and tasks of training. The tasks can be of different orientation. The most purposeful it is to plan the trainings in definite sequence. The sequence and differentiation depend on the purpose of correction work and stage of self-education process's organization.

Final part takes 10-20% – summarizing of training results, setting tasks for the next training, relaxation or activation of athletes' state, depending on the targets of correction program and assessment of group work or each athlete separately. Final part was conducted under musical accompaniment.

At first training session rules of group work are announced; they, further, positively influence on correction work and mutual trust. All exercises were strictly regulated by time.

Every stage of program had its own dynamic. It depended on the purpose and tasks of every stage.

The first training session of the first stage is devoted to familiarization, organizational questions and explanations of expectations. At 2-8 trainings dynamic and active self-cognition work was practiced.

The first training of the 2nd stage was devoted to analysis of diaries and its re-structurizing. At 2nd-4th trainings athletes overcame critical life situations. At 5th training exercise "Tree of resources" was practiced. At 6th-8th trainings athletes overcame critical life situations (this training was devoted to summarizing).

At 3rd stage athletes worked more independently and their work was directed at creation of optimal

psychological-pedagogic conditions of self-education's organization in life activity. This work was fulfilled at 1st-8th trainings. 9th training of the 3rd stage was devoted to summarizing of all program of athletes' self-education process's organization.

For assessment of self-education organization with the help of innovative program effectiveness and self-report diary we formed a block of methods for psycho-emotional state diagnostic.

Athletes' psycho-emotional state; self-education's organization and self control were checked by psychological tests and questionnaires. It permitted to find psycho-emotional state development, functioning and correction in pre-competition and competition periods:

1. Method of modeling (consisted of three stages). The first stage: careful study of self-education and self-perfection experience of Paralympic athletes; analysis and generalization of this experience and formation of hypothesis which became the basis of innovative program of self education process's organization, considering pedagogic conditions [1, 8].

The second stage: formation of research program; organization of practical activity in compliance with the worked out innovative program of self-education process's organization; inserting of corrections to the program; specifying of initial hypothesis, taken as the base of model.

The third stage: formation of final variant of model of innovative program of self-education process's organization for Paralympic athletes.

2. Diagnostic talks: as the basis of these talks we took five-step model of psychological interview: making contacts with athletes; collection of information on the problem; formulation of the desired result; working out of alternative solutions; generalization [7];

3. Questionnaire for anxiety level was with closed questions. I.e. answers were restricted by previously determined quantity of answers' variants. We used standard questionnaire for athletes' anxiety determination [1, 9, 12];

4. Socio-metric study implied the following: first we determined main criteria for assessment of one or another side of interpersonal interaction. For this purpose we formulated the questions, relating to real situation [7];

5. Questionnaire of Spilberger-Khanin was used for assessment of reactive and personal anxiety [1, 9];

6. Scale of competition anxiety was used for quantitative measuring of athlete's bent to emotionally react by different intensity anxiety to pre-competition and competition situations [1, 5, 7];

7. Questionnaire of Izank was used for diagnostic of neurotism, extraversion/introversion and psychotism. This questionnaire is a realization of psychological approach to personality's study [8, 9];

8. Questionnaire for study self-development and ability to self-organization was used for finding of abilities for self development and consisted of three main blocks: 1st – "self-cognition"; 2nd – "self-achievement/self-realization"; 3rd – "self-control" [12].

Psycho-emotional state of athletes was studied in dynamic as well: in trainings during all stages.

Statistical analysis: we calculated the following: mean arithmetic; mean square deviation; variation coefficient; standard error of mean arithmetic; correlation coefficient. The received data were processed with the help of Microsoft Excel program.

Results of the research

Paralympic athletes with muscular skeletal apparatus problems relate to the most dynamic branch of Paralympic movement. It is witnessed by: increase of competitions' quantity, strengthening of contest, emersion of new kinds of sports [3, 16, 34]. At present stage of Paralympic movement's development Paralympic athletes' activity is regarded at the level of "healthy" athletes' participation [24, 33]. During year Paralympic athlete can participate in a number of competitions of different level. Their quantity determines dynamic of training process.

In the course of our study of Paralympic athletes we receive significant correlations between different parameters: sport age and sport category; sport category

and social status in group; Sport age and social status in group; sport category and the type of temper personal anxiety and situational anxiety; personal anxiety and competition anxiety; communication with other people and planning future activity; communication with other people and professional progress.

Analysis of the received data showed the following:

1. The received significant correlations between "sport age" and "sport degree" witness about increase of sportsmanship in compliance with sport experience (see table 1).

This natural regularity is characteristic both for women and men. The accumulated in the process of many years' sports practicing experience brings its qualitative result.

2. The following received correlation between "sport category" and "socio-metry" can also be considered quite logical. Direct correlation points at positive influence of sportsmanship on socio-metric indicators of athlete (see table 2).

For many years athlete gains higher results that causes respect from less experienced athletes and higher quantity of choices by results of socio-metry.

Table 1. Correlation between sport age and sport category of Paralympic athletes

Indicators		Sport			
		Category	Age		
By Spearman	Sport category	Correlation coefficient	1.000	.674**	
		Bilateral value	-	.006	
		N	24	24	
	Sport age	Correlation coefficient	.674**	1.000	
		Bilateral value	.006	-	
		N	24	24	

**Correlation is significant at 0.01 (bilateral)

Table 2. Correlation between sport category and social status in Paralympic athletes' group

Indicators		Sport category	Socio-metry		
By Spearman	Sport category	Correlation coefficient	1.000	.674**	
		Bilateral value	-	.006	
		N	24	24	
	Quantity of choices	Correlation coefficient	.674**	1.000	
		Bilateral value	.006	-	
		N	24	24	

**Correlation is significant at 0.01 (bilateral)

Table 3. Correlation between sport age and social status in group of Paralympic athletes

Indicators		Sport age	Socio-metry		
By Spearman	Sport age	Correlation coefficient	1.000	.725**	
		Bilateral value	-	.002	
		N	24	24	
	Quantity of choices	Correlation coefficient	.725**	1.000	
		Bilateral value	.002	-	
		N	24	24	

**Correlation is significant at 0.01 (bilateral)

3. Similar picture was received for parameters “sport age” and “socio-metry”. The higher is sport experience the oftener a person receives advantage in choices by socio-metry (see table 3).

The data witness that sport results and sport age characterize the athlete’s experience. It causes respects to such athletes and points at higher quantity of choices by socio-metry.

4. Attention should also be paid to significant correlation between “sport category” and “type of temper”. Reverse correlation points, that with increasing of sportsmanship melancholic temper is rather rare, while sanguine temper if more frequently met (see table 4).

The received data point that:

A) High sport results shall not be expected from Paralympic athletes with melancholic type of temper, especially in game kinds of sports. It means that at the beginning of sport career correct sport selection can save a lot of time and finances.

B) Athletes with sanguine type of temper are the most promising for achievement of high sport results, especially in game kinds of sports. Such athletes are characterized by natural friendliness, will power and openness. All

these facilitate team spirit, group dynamic and team will for victory.

5. We received significant correlation between “personal anxiety” and “situational anxiety”. Direct correlation points that with increasing of personal anxiety situational anxiety also increases (see table 5).

This correlation points that athletes with high personal anxiety will have high situational anxiety in extreme situations. It can become an obstacle in achievement of high sport results.

6. We received significant correlation between “personal anxiety” and “competition anxiety”. Its direct character points that with increasing of personal anxiety, “competition anxiety” also increases (see table 6). In competitions such anxiety can be an obstacle in achievement of high sport results.

7. We also obtained highly significant correlation between “discussing of interesting problems with other people to know their point of view” and “planning of future activity (physical loads and so on)” (see table 7).

This correlation means the following: a) for Paralympic athletes initial pronouncing of own future actions can be sufficiently critical point in making plan

Table 4. Correlation between sport category and type of temper of Paralympic athletes

Indicators			Sport category	Type of temper
By Spearman	Sport category	Correlation coefficient	1.000	-.637*
		Bilateral value	-	.011
		N	24	24
	Type of temper	Correlation coefficient	-.637*	1.000
		Bilateral value	.011	-
		N	24	24

*Correlation is significant at 0.05 (bilateral)

Table 5. Correlation between personal anxiety and situational anxiety of Paralympic athletes

Indicators			Personal anxiety	Situational anxiety
By Spearman	Personal anxiety	Correlation coefficient	1.000	.559*
		Bilateral value	.	.030
		N	24	24
	Situational anxiety	Correlation coefficient	.559*	1.000
		Bilateral value	.030	.
		N	24	24

*Correlation is significant at 0.05 (bilateral)

Table 6. Correlation between personal anxiety and competition anxiety of Paralympic athletes

Indicators			Personal anxiety	Competition anxiety
By Spearman	Personal anxiety	Correlation coefficient	1.000	.707**
		Bilateral value	-	.003
		N	24	24
	Competition anxiety	Correlation coefficient	.707**	1.000
		Bilateral value	.003	-
		N	24	24

**Correlation is significant at 0.01 (bilateral)

of future activity; b) pronouncing permits to plan future activity and insert necessary corrections, when receiving significant feedback in due time; c) it's quite probable that initial pronunciation of the most important issues will play key role in development of self-organization of Paralympic athletes' personalities.

8. We received significant correlation between parameter "I used to discuss important for me questions with other people, to know their opinion" and parameter "Control over own professional progress to obtain positive results" (see table 8).

This correlation shows that Paralympic athletes require constant assistance during trainings from pedagogues, psychologists and coaches.

Discussion

To large extent, success in sports depends on athlete's individual features [3, 13]. Athlete's psychic qualities are the most significant factors, which condition the level of sport achievements [2]. The results, received in our experiment revealed similar connection. As per these parameters it is of no importance in which sport movement (Olympic or Paralympic) athlete participates. Intensive physical and psychic loads are characteristic for all sports. Such loads facilitate development of psychic features. They ensure weakening of psychic load by rationalizing behavior (anxiety in particular).

A number of authors [1, 2, 9] noted kinds of anxiety on the base of situations, connected with training process: training anxiety; with picture of oneself – self-assessment anxiety; with communication – interpersonal anxiety. Our researches confirm the results of other studies. Specificity

of the chosen category of athletes permitted for us to open wider these results. Thus we can affirm the following:

- Training process: for maximal realization of this direction it is necessary (especially in game kinds of sports) to select athletes with sanguine type of temper (see table 4);
- Picture of oneself: the received results show that Paralympic athletes with high personal anxiety can build imaginative obstacles. It influences negatively on achievement of high sport results and communication in team in extreme situation and everyday trainings (see tables 5, 6);
- Communication is the element, closely connected with previous kind of anxiety. It is necessary to remember that we deal with disabled people (see tables 7, 8).

Some authors [1, 13, 18] say that anxiety state complicates athlete's activity and reduces his/her achievements in competitions. Other specialists [6, 15, 33] present the data that anxiety state is connected with feeling "comfort of psychological functioning". The mentioned problem of conscious localization of anxiety control only has started to be worked out in sport psychology.

In the received by us results we attract attention to the data of correlations. They witness about demand in constant assistance of pedagogues, psychologists and coaches in trainings of Paralympic athletes. It is also confirmed by other authors [9, 10, 16]. Such assistance will positively influence on emotional state that will facilitate realization of Paralympic athlete's maximal potentials and bring victory in competitions.

Table 7. Correlation between communication with other people and planning of future activity

Indicators			Consideration of other people's point of view	Planning of future activity
By Spearman	Consideration of other people's point of view	Correlation coefficient	1.000	.853**
		Bilateral value	-	.000
		N	24	24
	Planning of future activity	Correlation coefficient	.853**	1.000
		Bilateral value	.000	-
		N	24	24

**Correlation is significant at 0.01 (bilateral)

Table 8. Correlation between communicating with other people and professional progress of Paralympic athletes

Indicators			Consideration of other people's point of view	Control over own progress
By Spearman	Consideration of other people's point of view	Correlation coefficient	1.000	-.580*
		Bilateral value	.	.023
		N	24	24
	Control over own progress	Correlation coefficient	-.580*	1.000
		Bilateral value	.023	.
		N	24	24

*Correlation is significant at 0.05 (bilateral)

Conclusions

Organization of athletes' self-education process has been defined as targeted, conscious, systemic and planned process. At the beginning athletes require assistance. Then, independent, personally desired and important personality's work with him/herself is started. The purpose of such work is: rising of sportsmanship, perfection of moral-will qualities, regulation of psycho-emotional state, self-perfection and self-realization in sport activity.

We have substantiated sequential stages of self-education process of Paralympic athletes in conditions of sport activity: involvement of Paralympic athletes in self-cognition process; mastering of skills in self-education; athlete's self-organization and self control over own sport and social self-perfection.

The structure of athletes' self-education is presented by

combination of interconnected components: motivational-personal (motives, demands, settings, moral-will qualities and individual-personal features); cognitive (system of knowledge about oneself and sport activity); activity (formation of skills in self-cognition, self-organization and self-control).

The prospects of further researches imply further scientific solution of the following problems: training of coaches for Paralympic teams in different kinds of sports, consideration of special aspects of Paralympic athletes' self-education process's organization in different kinds of sports during trainings and at different level competitions.

Conflict of interests

The author declares that there is no conflict of interests.

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