

Digital technologies in assessing the success component of adolescent athletes

*V.N. Trofimov, A.M. Danilova, A.D. Voronin**

Samara State Technical University, Samara, Russia

Abstract. The article suggests that the concept of “success in sports training of children” is integrative, including interrelated and correlated components. From the point of view of the authors, the evaluative-performance component is one of the most necessary to achieve success. The authors propose to improve the indicators of this component through the trainer-child-parent interaction system, which consists in the use of digital technologies, as well as in the development and application of the educational program of interaction between the trainer and the parents of the children involved in “Success of your child”. The article also presents the diagnostics of the evaluative-effective component, which consists in testing children by using the questionnaire of Stolin. and Panteleeva. Testing was carried out in the course of experimental work in two stages: at the ascertaining stage (before the introduction of the educational program) and the control stage (after the introduction of the educational program). Based on the results of the experimental work, the authors made conclusions about the need for a deeper introduction into the practice of interaction between parents, their children and the coach.

1 Introduction

It is clear that parental involvement has an impact not only on children's athletic performance, but also on their sense of their own success. Parental expectations regarding their children are of great importance [1, 4].

However, it should be said that in the field of sports, interaction with the family in order to support the child's desire to achieve success will only make sense when the family itself trusts the coach and has a positive attitude towards his work, as well as to the whole sport in general [9].

Often, the interaction in the trainer-child-parent system in the form of live communication is hampered by the very high employment of the latter [7]. In other words, they are simply limited in time to receive more detailed information about the level of athletic performance of their child. Therefore, it becomes necessary to develop a number of means of interaction with parents using digital technologies and multimedia support.

* Corresponding author: sasha-voronin-1994@mail.ru

Because with a clear understanding of the requirements and the preparation process by the parents, it will be easier for them to influence the child in terms of his sports activity.

2 Methodology

Today, the methodological principles of our research are being simplified due to the application of innovative approaches using technological means. For example, it is possible to organize interaction between parents and coaches using various social networks (VKontakte, Facebook, etc.) and instant messengers (WhatsApp, Viber) [2]. At the moment, any coach who has a smartphone with Internet access has a joint parental chat, where general information about training sessions, performances in competitions, open training sessions for parents, etc. is dropped off. If the situation requires more "live" communication with the parent, then here you can use video calls or applications such as Zoom, Skype, Discord [1], thanks to which the coach can not only talk about the child's problems and mistakes in the classroom and the tasks assigned to him but to express it all in a more emotional way. This, in turn, increases the interest of parents in the training process and expands their role in the process of sports training of children. In addition, you can also broadcast workouts online for those parents who, for one reason or another, were unable to attend open classes. This can be done through applications such as Instagram.

General information about the activities of the sports club, information about coaches, achievements, leading athletes, contacts, etc. parents can find out from the site or, in the absence of such, from the group community in the above social networks [5]. For a more detailed analysis of the child's sports training, the coach can point out his mistakes to each parent individually and explain what is required at each stage of performing a technical action using personal communication in messengers. Such actions contribute to the implementation of a number of principles of the process of sports training: differentiability, individualization and educational reflection [6]. And for a more successful analysis, a parent and his child can be helped by certain mobile applications installed on gadgets, which can also be attributed to the means of multimedia support [3]. So, for example, using the Hudl Technique or OnForm: Video Analysis App, they can analyze the techniques performed by the child in comparison with the same techniques performed by professional athletes by uploading two videos (one with their own technique, the other with the professional performing the technique) and simultaneous viewing of these videos with stops and highlighting their shortcomings [8]. There are also a number of download applications that present training videos on how to perform techniques for different sports (BJJ Dummy Notebook, Thai boxing for you, etc.), which the coach can recommend to parents for watching and analyzing these techniques together with their children. In addition, many training videos are posted on YouTube video hosting, for which the coach will only need to send a link to the parents.

In the process of such interaction between the child and his parents, the first forms a positive emotional attitude, improves relationships in the family and the sports team, which also greatly influences the formation of his success in sports training.

3 Results

To identify the indicators of the evaluative-effective component, we applied a self-attitude test questionnaire developed by Stolin and Panteleev (2005). According to the authors, this test allows us to determine three levels of self-attitude, divided by the degree of generalization: global self-attitude; self-attitude, differentiated by autosympathy,

expectations of attitude towards oneself, self-interest and self-esteem; the level of specific actions (or readiness for these actions) in relation to their "I".

In our work, when determining the indicators of the evaluative-effective component, both during the ascertaining experiment (before the introduction of the program for working with parents) and during the formative one (after the implementation of the program), we analyzed not only quantitative indicators on each scale (what percentage schoolchildren belongs to each category) (Table 1), but the average indicator for each scale among schoolchildren in the control and experimental groups was also determined (Table 1).

Table 1. The dynamics of quantitative indicators are an effective component.

The name of the indicator	Group tested	Stage name	Test results		
			More than 74% (a sign clearly expressed)	50-74% (sign expressed)	Less than 50% (no sign expressed)
Global self-respect	Control group	The final stage	73%	17%	10%
		Control stage	68%	23%	9%
		Dynamics	-5%	+6%	-1%
	Experimental group	The final stage	57%	29%	14%
		Control stage	71%	21%	8%
		Dynamics	+14%	-8%	-6%
Self-esteem	Control group	The final stage	50%	17%	33%
		Control stage	44%	29%	27%
		Dynamics	-6%	+12%	-6%
	Experimental group	The final stage	14%	72%	14%
		Control stage	32%	55%	13%
		Dynamics	+18%	-17%	-1%
Auto sympathy	Control group	The final stage	33%	55%	12%
		Control stage	35%	52%	13%
		Dynamics	+2%	-3%	+1%
	Experimental group	The final stage	21%	30%	49%
		Control stage	27%	39%	34%
		Dynamics	+6%	+9%	-15%
Expected attitude others	Control group	The final stage	4%	31%	65%
		Control stage	6%	34%	60%
		Dynamics	+2%	+3%	-5%
	Experimental group	The final stage	2%	27%	71%
		Control stage	6%	38%	56%
		Dynamics	+4%	+11%	-15%
Self-interest	Control group	The final stage	28%	47%	25%
		Control stage	21%	40%	39%
		Dynamics	-7%	-7%	+14%

Continuation of table 1.

	Experimental group	The final stage	29%	42%	29%
		Control stage	31%	48%	21%
		Dynamics	+2%	+6%	-8%
Confidence	Control group	The final stage	18%	39%	43%
		Control stage	18%	43%	39%
		Dynamics	0%	+4%	-4%
	Experimental group	The final stage	5%	33%	62%
		Control stage	13%	47%	40%
		Dynamics	+8%	+14%	-22%
Attitudes of others	Control group	The final stage	11%	37%	52%
		Control stage	13%	37%	50%
		Dynamics	+2%	0%	-2%
	Experimental group	The final stage	6%	38%	56%
		Control stage	18%	32%	50%
		Dynamics	+12%	-6%	-6%
Self-acceptance	Control group	The final stage	50%	27%	23%
		Control stage	42%	32%	26%
		Dynamics	-8%	+5%	+3%
	Experimental group	The final stage	34%	39%	27%
		Control stage	35%	46%	19%
		Dynamics	+1%	+7%	-8%
Self-consistency	Control group	The final stage	51%	20%	29%
		Control stage	47%	27%	26%
		Dynamics	-4%	+7%	-3%
	Experimental group	The final stage	52%	16%	32%
		Control stage	58%	19%	23%
		Dynamics	+6%	+3%	-9%
Self-blame	Control group	The final stage	27%	19%	54%
		Control stage	31%	15%	54%
		Dynamics	+4%	-4%	0%
	Experimental group	The final stage	17%	15%	68%
		Control stage	13%	11%	76%
		Dynamics	-4%	-4%	+8%
Self-interest	Control group	The final stage	36%	31%	33%
		Control stage	26%	32%	42%
		Dynamics	-10%	+1%	+9%
	Experimental group	The final stage	18%	36%	46%
		Control stage	21%	42%	37%
		Dynamics	+3%	+6%	-9%

Continuation of table 1.

Attitudes of others	Control group	The final stage	50%	33%	17%
		Control stage	47%	38%	15%
		Dynamics	-3%	+5%	-2%
	Experimental group	The final stage	43%	35%	22%
		Control stage	55%	29%	16%
		Dynamics5	+12%	-6%	-6%

Source: authors.

Based on the results of the experimental work, a number of changes in the evaluative-effective component of children's success were identified. The essence of these changes lies in the dynamics of self-assessment, consisting of 12 scales. According to the results of the experimental work on the evaluative-effective component, the following results were obtained (Table 2):

Table 2. Dynamics of the average values of the indicators of the evaluative-effective component.

The name of the indicator	Comparison of indicators	Experimental Group(n'62)	Experimental Group(n'62)
Global self-treatment (points per %)	The final stage	72,39%	80%
	Control stage	76,48%	77,15%
	Dynamics	+4%	-2,85%
Self-esteem (points per %)	The final stage	71,18%	65,59%
	Control stage	73,84%	63,91%
	Dynamics	+2,66%	-1,68%
Auto sympathy (points per %)	The final stage	45,15%	66,13%
	Control stage	60,29%	67,07%
	Dynamics	+15,14%	-0,94%
Expected ratio of others (number of points per %)	The final stage	41,61%	42,26%
	Control stage	49,11%	47,62%
	Dynamics	+7,5%	+5,36%
Self-interest (number of points per %)	The final stage	60%	78,28%
	Control stage	77,93%	56,23%
	Dynamics	+17,93%	-22%
Self-confidence (points per %)	The final stage	53,08%	73,65%
	Control stage	72,51%	76,68%
	Dynamics	+19,43%	3,03%
The ratio of others (number of points per %)	The final stage	37,35%	40,32%
	Control stage	47,14%	43,27%
	Dynamics	+9,79%	+2,98%
Self-acceptance (points per %)	The final stage	60,10%	82,15%
	Control stage	68,77%	76,15%
	Dynamics	+8,67%	-6%
Self-consistency (number of points per %)	The final stage	67,94%	70,97%
	Control stage	79,81%	70,57%
	Dynamics	+11,87%	-0,4%
Self-blame (points per %)	The final stage	54,63%	41,77%
	Control stage	43,24%	46,38%
	Dynamics	-11,39%	+4,61%

Continuation of table 2.

Self-interest (number of points per %)	The final stage	50,37%	65,97%
	Control stage	64,58%	59,37%
	Dynamics	+14,21%	-6,59%
Self-understanding (number of points per %)	The final stage	71,29%	80,76%
	Control stage	85,90%	77,72%
	Dynamics	+14,61%	-3,04%

Source: authors.

So, as a result of the experiment "global attitude to oneself" in the experimental group, the number of children with a pronounced manifestation of this sign "+ 14%" increased and the number of those children in whom such a sign manifests itself insufficiently often or does not manifest itself at all; in the control group there is a decline in the number of children with a pronounced severity of this indicator "-5%" towards the average severity;

In the criterion "self-esteem" - the adolescents of the experimental group showed an increase in their results for the manifestation of a vivid expression of "+ 18%" according to this criterion, and children with a vivid manifestation of self-esteem from the control group, on the contrary, decreased "-6%";

"Autosympathy" - according to this indicator, in both groups there is an increase in the number of children with a pronounced severity, but in the control group this result is less "+ 2%" than in the experimental "+ 6%". In addition, in the experimental group, there was an increase in the number of children in whom this feature was not manifested at all to the number of those where this feature is expressed in a sufficient level of "+ 9%", in the control group, on the contrary, this indicator decreased "-3%";

In the indicator "expected attitude of others" - in the control and experimental groups, there was an increase in the number of adolescents from a low value (the sign is not expressed) to higher (the sign is pronounced, the sign is pronounced) in general by "+ 5%" and "+ 15%" respectively;

"Self-interest" - children from the experimental group became more interested in themselves, as a result, their level of self-attitude towards themselves increased. In total, according to this scale, in the experimental group there was an increase from the mark "the sign is not expressed" to higher results by 8%. In the control group, the picture looks completely different - the number of children interested in themselves has significantly decreased from high marks "the sign is pronounced" and "the sign is expressed" to low by 14%.

According to the indicator "self-confidence" - 22% of adolescents in the experimental group improved their results on this indicator from low to higher marks ("+ 14%" - the sign is pronounced, "+ 8%" - the sign is pronounced). In adolescents of the control group, no significant changes were found;

"Attitude of others" - in this indicator and in both groups, there was an increase in the number of trainees from a low value (the sign is not expressed) to higher (the sign is expressed, the sign is pronounced), but the results of "+ 12%" of the experimental group are superior to the results of the control "+ 2%" by 10%;

From the indicator "self-acceptance", there is an increase in the results of children in the experimental group ("+ 7%" - the sign is pronounced, "+ 1%" - the sign is pronounced), as well as a decrease in the number of children in the control group who had a high level of self-acceptance to the worst values "-8%";

And "self-consistency" in the experimental group, the number of adolescents who improved their results on this indicator increased by 9%, while in the control group, their peers, on the contrary, demonstrated a decrease from the level "the sign is pronounced" to the level "the sign is expressed" by 4% and an increase adolescents to the same level from the level "the sign is not expressed by 3%;

In the indicator "self-accusation" - the number of those engaged in the experimental group, in whom this symptom began to manifest itself to a lesser extent, increased by 8%, and in the control group, 4% of children began to condemn and accuse themselves even more often;

"Self-interest" - the number of adolescents who began to show more interest in themselves increased by 9% in the experimental group, and decreased by 10% in the control group;

"Self-understanding" - the number of people in the experimental group who improved their results on this indicator increased by 12%, and in the control group the children showed a decrease from the level "the sign is pronounced" to the level "the sign is expressed" by 3% and the increase of children to the same level with the level "the sign is not expressed by 2%.

4 Discussion

In order to form the success of all those involved, taking into account the great role of the family in this process, the authors worked with parents. The developed program set the following tasks:

- improving the pedagogical culture of parents;
- creating conditions for effective interaction between the coach and the family;
- development of a universal, unified approach to assessing and shaping the motivation of children in the family and in the sports section.

The above tasks were solved within the framework of the developed program "Your Child's Success". The implementation of this program was carried out in three stages: theoretical, practical, final. The theoretical stage included online meetings with parents, webinars for parents, individual conversations with the parents of each child in Zoom. The practical module included: joint classes of children and parents, parents visiting open trainings, joint viewing of educational videos, extracurricular joint activities with children. The main problem was to motivate parents to active sports activities, in view of the fact that most of them, as children grow up, did not particularly care about their sports activities. In addition, a significant part of the parents did not show much interest in sports in general.

The first module of the program - "Theoretical information about the role of parents in the formation of the child's success in the process of sports training" - consisted of three sessions, which were conducted not only jointly by the entire parental team, but also individually with each parent of the child involved. At the first lesson, held in the form of an online meeting, the parents were described in detail the essence of the organization of the training process; the program used by the trainer; pedagogical means used in the process of sports training, aimed at ensuring the success of children, their specificity. All parents were given specific examples of how the process of sports training will be organized. They also raised the question of what parents need to pay attention to at home in order to motivate the child to achieve success and to form his cognitive interest in sports every day.

The second lesson for each parent and his child was conducted individually in the format of an online conversation in Zoom. In the course of individual conversations with parents and their children, the role of the family in achieving the success of children's sports training was discussed. It paid special attention to the style of relationships in a particular family, emphasized the specifics of adolescence, difficulties arising from certain disagreements between parents and their children. In addition, the topic of the need for a welcoming and friendly nurturing environment for their children involved in sports was

discussed with the parents, in which the corresponding successes and failures will be duly treated.

The third lesson with parents was conducted in the format of a webinar. A very significant topic was discussed at it - "Helping a child to achieve success in sports." In this webinar, parents whose children have achieved certain results in sports activities shared with the rest of the experience how they helped and supported their children on the way to achieving success. Also, a presentation was presented to parents with various tips from both parents of outstanding athletes and from the coach: do not scold the child for poor results in competitions; emphasize the importance of playing sports in his life; support the child in all his endeavors, even the most insignificant and unrelated to sports activities; notice even his insignificant successes, and not only focus on the results of the competition; maintain confidence in the child, and always admonish him that even if he does not always succeed, he himself does not become bad.

The second module of the program, practical - "Joint training of parents and their children in the process of sports training" - was implemented in training sessions of adolescents, with the active participation of their parents. The latter were not only present, but also took part in most physical training classes, were actively involved in competitive and extra-training activities. The training sessions, which developed technical and tactical skills, were conducted in the form of open training, which aroused great parental interest. Through the joint efforts of the coach and parents, trips to master classes of eminent athletes, hiking trips, and various event events were organized. Children went to the competitions, which were held in other cities, not only accompanied by a coach, but also by several more parents. If the competitions were held in our region, the parents offered their help in organizing and conducting these competitions. First of all, this increases the level of responsibility of the child, who, as a rule, wants to prove to the parents that he is perfectly prepared for this event. Secondly, it is very important for a teenager to feel that he is not alone, that his parents are always interested in his life and problems and are ready to support him at any moment. In addition, parents themselves can become direct participants in the sports training of their child. After the competition, there were joint video views of the children's performances and analysis of technical and tactical errors with the expression of the parent's and the child's opinions on this matter. The joint experiences of the coach, parents and their children, and the subsequent achievement of a positive result, contributes to the formation of the teenager's success. Therefore, the coach should always remember this triangle, and if he strives to make the child successful. [10]

5 Conclusion

Using Fisher's criterion, the empirical value is determined at the level $F_{emp} = 3.27$ of the dynamics of the indicators of the evaluative-effective component in the experimental and control groups of subjects, which is greater than the critical value of Fisher's criterion for a significance level of 0.05: $F_{0.05} = 1.64$. Consequently, the differences between the states of the experimental and control groups are 95% significant.

At the final stage, the results of the program were analyzed, family relations were diagnosed, parents were questioned, and further prospects for interaction between parents and the coach were determined. Thus, according to the results of the program, children whose parents did not participate in sports life at all or did it rarely, after the activation of their parents, improved their indicators in the evaluative-effective component. In this case, parental aspirations and expectations for their children play a very important role. It can also be noted that the participation of parents in this program influenced the adolescents' sense of their own success. In addition to relationships in the trainer-child-parents system,

an equally important role in the evaluative-effective component is assigned to such indicators as self-control, reflection, self-esteem, etc.

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