

Analysis of the state of professional competence of boxing coaches

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Abstract:

Sports coaches require a wide range of knowledge, skills, and abilities, which necessitates continuous improvement of their professional competencies. Enhancing the effectiveness of forming professional competences in coaches remains a pressing issue that warrants thorough investigation. The research objective is to increase professional competencies level aimed to better educational and training processes. Additionally, it aims to analyse the significance of expanding the professional knowledge, skills, and abilities of boxing coaches. The study employed the following research materials and methods. Sixteen coaches from a system of additional training in boxing participated in the research. They had varying experience in training and pedagogical work, ranging from one year to over twenty years. The research used a questionnaire survey to determine the extent to which specialists in martial arts need to supplement their knowledge, skills, and abilities to perform their professional functions in accordance with the requirements set by the professional standard, "Coach". To achieve this, we utilized the questionnaire modified by Brazhnik and colleagues (2021). We organized all questionnaire items into three categories: these categories were named 'job activity', 'skills required' and 'knowledge required'. Responses to each question were scored on a three-point scale. Findings of the research. Martial arts professionals rated the degree of necessity to acquire knowledge and skills on the proposed training topics from the three highlighted blocks as 'high'. The degree of necessity ranged from 12.5% to 100.0%. The most popular training topics included the implementation of innovative methods in sports training, the creation and approval of innovative methods in boxing education and training processes using competent approaches, the use of information and communication technologies and means of communication in sport, and innovative methods for conducting education and training sessions. In conclusion, boxing coaches with additional education should develop their expertise and skills in innovative training methods, especially in the areas of professional activities, professional skills and theoretical knowledge. Professional activities, professional skills and theoretical knowledge. The results of the questionnaires are useful in designing professional development programmes for boxing coaches.

Key Words: somatotype, physical activity, metabolism, physical qualities

Introduction

Coaches in various sports, responsible for additional physical education, are tasked with ensuring the effective provision of the educational and training process, as well as promoting human health (Nagovitsyn, et al., 2017; Giuseppe Madonna, & Patrizia Belfiore, 2020). Coaches play a significant role in extending the active lifespan of athletes and physical educators through activities focused on teaching them the foundation of a healthy lifestyle. The development of innovative health-saving and health-forming technologies for physical education and recreation, especially among the younger generation, remains relevant (Holt et al., 2017; Reverdito et al., 2020).

The realisation of these tasks among the population requires the search and testing of new technologies in the training of physical education coaches and the improvement of their professional competence (Kozlovskiy, 2018). Therefore, high demands are placed on the professional competence of a coach in the field of additional physical education (Danylevych et al., 2019; Kryshchanovych 2019). Currently, the profession of a coach belongs to the socially significant professions, which have an important social value. This is due to the fact that this

profession plays a key role not only in the preparation of effective athletes, but also in the formation of good physical health and high spiritual and moral values in modern youth (Monteiro, Gabriella Nell et al., 2021).

The existence of physiological, physical, psycho-emotional, gender, age, and other differences among individuals can significantly affect the educational and training process, as well as the effectiveness of athletes' performance in competition. Under such circumstances, coaches need effective communication skills to interact with young athletes and their parents (Cherov et al., 2021). One of the indicators of a coach's professional success for his effective performance is his information and communication skills (Ferry, & Romar, 2020).

Therefore, the coach of complementary education needs a deep and wide knowledge not only in his/her profession, but also in related disciplines (Prystupa et al., 2020; Sgambelluri et al., 2021), especially in psychology, medicine, sports pedagogy and others.

Nowadays in the educational system there is a constant adaptation of educational programmes, which is connected with the change of views and methodological approaches to training, the use of innovative scientific developments in the field of pedagogy and with the change of requirements to the activity of a teacher and a coach. Therefore, the formation and improvement of professional competence of sports coaches requires not only serious training of this profession, but also constant improvement of the level of professionalism with additional mastery of innovative educational materials (Madonna, & Belfiore, 2020).

The analysis of scientific and methodological literature shows that the issues of formation of professional competences in the field of physical culture and sport have been studied quite extensively (Soltyk et al., 2017; Meier, 2020; Pyviko, 2021; Gromov et al., 2022).

Scientific literature reflects the issues of training and education of coaches in the system of additional education in psychological and pedagogical research directions (Serebrovskaya et al., 2020; Mishchenko, & Cherepov, 2022). In addition to traditional teaching methods, innovative interactive pedagogical technologies such as problem-based learning, project-based learning and discussion-based learning are employed (Prystupa et al., 2020; Sgambelluri et al., 2021). Technical term abbreviations should be explained when first used. However, there is insufficient research on the development of professional competences among boxing coaches and teachers within the context of additional education.

The issues of development of professional competence, i.e. professionalism of coaches, play a crucial role in sports pedagogy. According to K.S. Kolodeznikov (2010), "the process of self-improvement of a future teacher-coach is determined by such criteria as the presence of a professional position, manifestation of creative activity, stable and dominant needs and motives for professional self-improvement, ability to manage educational innovation activity". Meanwhile, the issues of training of combat sports coaches to innovative activity in the conditions of the system of additional education on the basis of the requirements of the professional standard "Coach" (Order of the Ministry of Labour and Social Protection of the Russian Federation dated 7 April 2014 ¹ 193n) are not given due attention. It is known that the professional development or retraining of coaches is carried out using educational programmes (Galatti, 2017; Guillermo Felipe López Sánchez et al., 2018). We believe that the modification or development of new training programs for boxing coaches to improve their professional competencies is an urgent problem in sports pedagogy (Madonna, & Belfiore, 2020). For the implementation of such training programmes, the necessary condition at the initial stage of improving the quality of training is the analysis of the initial state of the level of knowledge, skills and the need to improve the professional competencies of boxing coaches and teachers in the system of additional education. In the available scientific literature such issues are insufficiently studied.

Research aim. Analysis and evaluation of the need for, and focus of, additional training topics for boxing coaches in order to improve their professional skills.

Material & methods

The research project was conducted in the academic year 2021-2022 in Chelyabinsk (Russia), in collaboration with the Association of Children's and Youth Sports Boxing Club 'Santa'. A survey was conducted at the beginning of the study to identify the need for additional knowledge, skills and abilities among 16 boxing coaches, to perform their work functions effectively in accordance with the professional standard 'Coach'. This standard was approved by the Order of the Ministry of Labor and Social Protection of the Russian Federation dated 7 April, No. 193n, (2016). To assess the need for coaches of sports schools in boxing to acquire the necessary knowledge and skills, the modified questionnaire by Brazhnik et al. (2021) was used as a basis.

The questionnaire was divided into three blocks: These blocks were titled "Professional Activity", "Required Skills", and "Required Knowledge" respectively, containing 8, 5, and 9 questions each. The proposed questions offer an opportunity to evaluate the job functions of a physical education teacher in detail. The survey evaluates responses using a 3-point scale, where "0" denotes the lowest score. This assessment implies that a specialist in the field of sports need not enhance their skills and knowledge further. A score of "2 points" corresponds to an average desire of a coach to improve their knowledge and professional skills, while "3 points" is the maximum score attainable. This score suggests the need for professional development in knowledge and skills. To perform these three functions, coaches must acquire additional theoretical knowledge and skills through professional development.

STATISTICA 10.0 and MS Excel 2010, licensed software, were used to analyse the research project materials. Calculation of chi-square (χ^2) determined significant differences ($p < 0.05$) in qualitative indicators. Differences were considered critical when $\chi^2 > \chi^2_{crit}$, indicating statistical significance.

Results

The social characteristics of the coaches who participated in the research project are presented in the table.

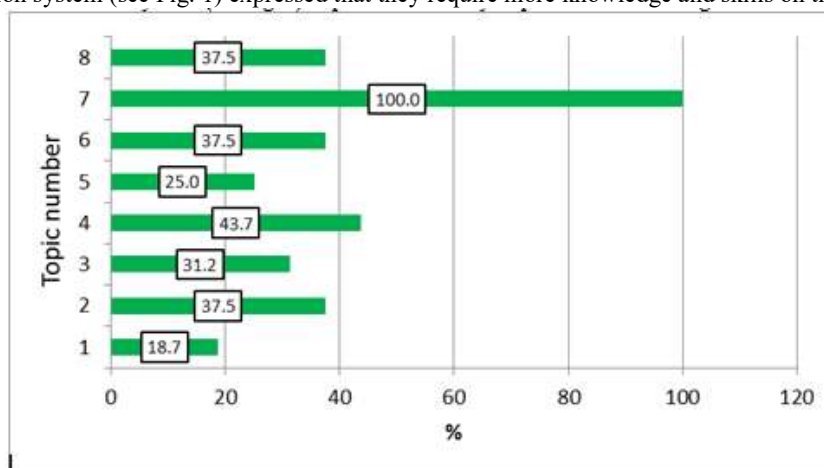
Table. Social characteristics of the boxing coaches interviewed

Answer options	%
The gender of boxing coaches	
1. Female	-
2. Male	100.0
Level of education	
1. Secondary vocational education	25.0
2. Higher professional education	50.0*
3. Higher education not physical education	25.0
Number of years of coaching experience	
1. Up to 1 year	6.25
2. from 1 to 5 years	6.25
3. 5 to 10 years	25.0
4. 10 to 20 years	43.7*
5. Over 20 years	18.8

Note: * reliable difference of differences of indicators, $p < 0.05$

All the coaches analyzed are men according to their social characteristics. Half of the coaches have postgraduate degrees in physical education, which is a notably higher proportion. Twenty-five percent of coaches have a high school education in a non-physical field or a degree in a non-physical area equivalent to those with a higher education in physical education. A significant proportion (43.7%) of coaches have a considerable work experience, between 10 and 20 years, $p < 0.05$. Only a few coaches, 6.25% each, have work experience of up to 1 year and from 1 to 5 years.

According to the survey results of boxing coaches, the topic that scored highest in the "Professional Activity" block was Topic 7: "Implementation of Innovative Sports Training Methods". Every coach in the Additional Education system (see Fig. 1) expressed that they require more knowledge and skills on this subject.



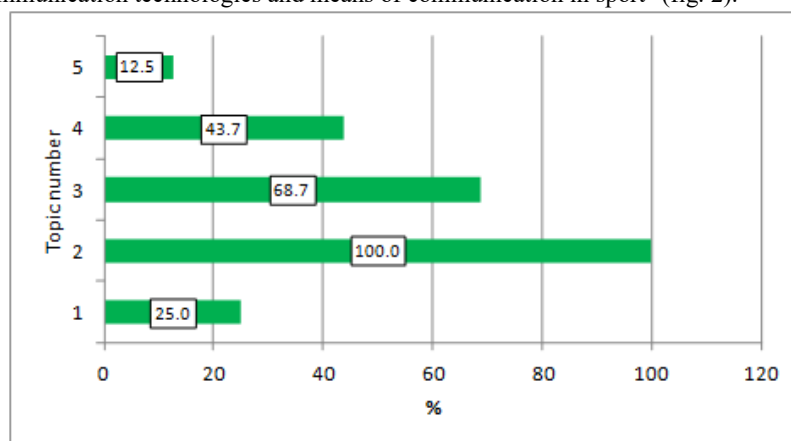
Note: Content of the "Professional activity" section: 1. Planning lessons and preparing thematic plans for sports training programmes in accordance with local laws and the objectives of the physical culture and sports organisation. 2. Admission rules and training procedures for pupils at different levels of physical education. 3. Training contents and proportions at different stages of physical education. 4. Medical, biological, age and psychophysical requirements for children at different stages of sports training.

Fig. 1: Number of boxing coaches who need additional information for effective work in the section "Professional activity"

More than 40.0% of coaches indicated the need to master and improve knowledge and skills on the topic "Medical-biological, age and psychophysical requirements for children being trained in different sports groups in boxing". The other topics of the block "Professional activity" also aroused the interest of the coaches and teachers of additional education in boxing. It was found that the maximum score of the interviewed coaches for the proposed topics ranged from 25.0% to 37.5%. The least interest was given to topic No1 "Calendar and

thematic plan, scheduling of classes for implementation of sports training programmes in accordance with local laws and objectives of physical culture and sports organisation".

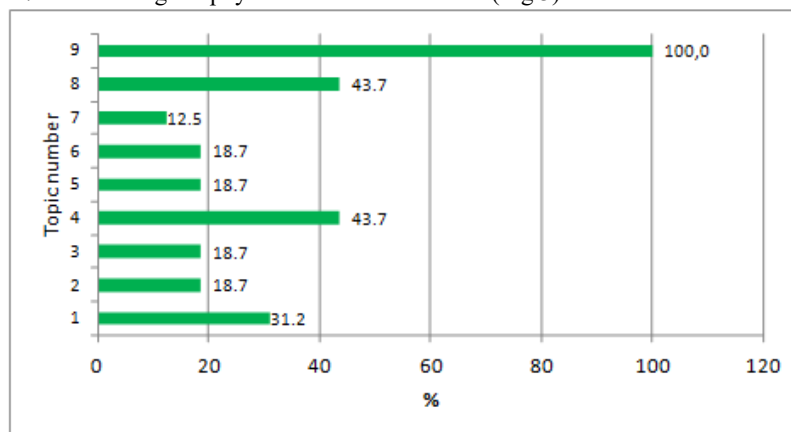
The analysis of the results of the questionnaire survey of boxing coaches of the block "Professional skills" showed that at the maximum level all respondents need additional information on the topic № 2: "Information and communication technologies and means of communication in sport" (fig. 2).



Note. Topics of the block "Professional skills": 1 - conducting a survey and assessment of the level of motivation and psycho-emotional state of the person entering the initial training group; 2 - information and communication technologies and means of communication in sport; 3 - creation and approval of innovative methods of educational and training process in boxing using the competence approach; 4 - implementation of technologies of diagnosing the causes of conflict situations, their prevention and resolution; 5 - adjustment of the educational and training process of engaged athletes.

Fig. 2: Number of boxing coaches who need to obtain additional information required in the "professional skills" block of work

A significant number of coaches (68,7 %) indicate the need to acquire additional knowledge and skills on the topic №3 "Creation and testing of innovative methods of educational and training process in boxing with the use of competence-based approach". The coaches were also interested in other topics of the block "Professional skills". The need for additional information ranged from 25.0 to 43.7%. The least interest of boxing coaches was aroused by the topic №5 "Adjustment of education and training process of engaged athletes". The analysis of the results obtained in the questionnaire survey of boxing coaches in the block "Theoretical knowledge" showed that all respondents need to replenish knowledge and skills at the maximum level on the topic № 9: "Innovative methods of conducting training sessions" (fig. 3). The interest in obtaining additional information on other topics in order to extend theoretical knowledge was rated as "high" and amounted to 18.7 to 43.7% of coaches at the maximum level of need. The lowest level of interest among coaches was noted for topic No7 "Monitoring the physical fitness of athletes" (Fig 3).



Note: The "Theoretical Knowledge" block covers the following topics: 1. Federal standards for sports training, 2. Anti-doping programmes, 3. Training modes, 4. Limits to training load, 5. Volume of individual sports training, 6. Psychological and emotional differences in children of different ages: 7. Monitoring the physical fitness of children, 8. Planning training session technologies, 9. Innovative training methods.

Fig. 3. shows the number of boxing coaches who need additional knowledge and skills presented in the "Theoretical Knowledge" block of work (based on maximum scores).

Thus, the analysis of the results of the questionnaire survey of coaches has shown that the degree of need to acquire additional knowledge and skills on the proposed topics from the three blocks of the professional standard "Coach": "professional activity", "professional skills", "theoretical knowledge" in boxing specialists is high and reaches 100% in some topics. These data indicate the need to organise and conduct additional training for boxing coaches, which will increase the level of their professional competences.

Dicussion

According to Kovalenko et al. (2014), the professional competence of sports coaches includes the following types of competences: pedagogical, psychological, gnostic, design, communication, organisational, research, diagnostic, motor and acmeological. In recent years, due to the significant use of digital tools and methods in pedagogical work, the professional activity of coaches has been supplemented with information and communication competence (Ferry, & Romar, 2020; Kuźbik, & Wronka, 2021).

The wide range of knowledge and skills of sports coaches requires continuous improvement of professional competence in the form of professional development courses (Guillermo Felipe López Sánchez et al., 2018). The formation and improvement of pedagogical competence is one of the real problems of modern sports pedagogy, as shown by the studies of many authors (Soltyk et al., 2017; Meier, 2020). Particularly important is the high level of professionalism of coaches when working with young people (Kovalenko et al., 2014), which is due to the possibility of forming in them a lasting interest in physical culture or building a future sports career (Monteiro, Gabriella Nell et al., 2021). Therefore, the research topic we have chosen is important and timely in pedagogy.

It is generally accepted that the development of professional competences of sports professionals should be continuous (Reverdito et al., 2020). In some countries, such as Brazil, annual training to improve the level of professional competence of coaches is enshrined in legislation (Galatti, 2017). According to the author, this not only ensures a high level of professional training for coaches, but also significantly develops motivation for physical activity in children and adolescents.

In order to develop curricula for professional development courses designed to produce a high level of professional literacy among boxing coaches, it is crucial to determine the knowledge enhancement training areas that are needed and in demand.

Our questionnaire survey among coaches shows that in the block "Professional activity" the respondents were very interested in the training topic "Implementation of innovative methods of sports training", in the block "Professional skills" the topics "Creation and testing of innovative methods of educational and training process in boxing using competence-based approach" and "Information and communication technologies and means of communication in sport", in the block "Theoretical knowledge" the topic "Innovative methods of conducting educational and training process", in the block "Theoretical knowledge" the topic "Innovative methods of conducting educational and training process", in the block "Professional skills" the topics "Creation and testing of innovative methods of educational and training process in boxing using competence-based approach" and "Information and communication technologies and means of communication in sport".

Our survey findings among boxing coaches are in line with the results reported by other researchers (Sgambelluri et al., 2021). The authors suggest incorporating innovative pedagogical technologies in conjunction with traditional methods. The preference of coaches for innovative technologies in boxing coaching may signify a strong drive among sports educators to employ contemporary approaches in training youths, which in turn boosts the effectiveness of organising and carrying out the pedagogical process.

Conclusions

The analysis of the questionnaire survey material found that all boxing coaches were interested in expanding their knowledge, skills, and abilities to enhance their professional competences in the given field. Professional activity on the topic, Implementation of innovative methods of sports training in the Professional skills block, on the topics: Information and communication technologies and means of communication in sport, Creation and testing of innovative methods of the educational and training process in boxing using the competence approach and Theoretical knowledge on the topic of innovative methods of conducting educational and training sessions. Improving the level of professional competence of coaches in innovative technologies of children's boxing lessons can enhance the effectiveness of the training process.

Our research will aim to improve pedagogical technologies for enhancing the professional competence of martial arts specialists. Our work will consider the degree of need for additional knowledge identified by coaches and focus on modernising and enhancing the effectiveness of the educational and training process in sports. We will employ innovative means and methods of training sports specialists, prioritising the quality of their training.

Conflicts of interest. The authors declare no conflict of interest.

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