2025, Retos, 62, 553-563

Comparative analysis of fitness coach training systems

Análisis comparativo de los sistemas de formación de entrenadores de fitness

*Ilya Krugovykh, **Vitaliy Avsiyevich, *Zhanna Sabyrbek, *Toktassyn Bekbolatov, *Sharkul Taubayeva
*Al-Farabi Kazakh National University (Republic of Kazakhstan), **Kazakh Academy of Sports and Tourism (Republic of Kazakhstan)

Abstract. The purpose of this study was to identify and study the most effective practices used in coach training systems in various countries of the world. The following methods of scientific cognition were used: comparative analysis, systematic method, and classification. As a result of the conducted research, an in-depth analysis of fitness coach training systems in the United States of America, Norway, Spain, and Kazakhstan was carried out. It was determined that in the American fitness coach training system, a distinctive feature is a high diversity of educational programmes, which is supported by the standardisation of qualifications. In the context of the Norwegian training system, an emphasis was placed on maintaining and developing the principles of health and activity, and on the professional ethics of specialists, including psychological training and interaction with clients. Consideration of the Spanish approach demonstrated the importance of aesthetics and diversity of physical activity for local educational programmes. The specific features of training fitness coaches in Spain also include issues of motivation and psychological training of future specialists. In Kazakhstan, a combination of conventional and innovative methods in the training of fitness coaches has been revealed, which consists in studying the pedagogical approach and introducing the latest trends in fitness. A detailed examination of the above systems helped to identify key differences in approaches to ethics and responsibility of coaches. Based on the analysis, a universal approach to training fitness coaches based on best practices was developed and described.
Keywords: educational programmes; professional competencies; standardisation of qualifications; licensing; best practices; innovations in sports.

Resumen: El objetivo de este estudio fue identificar y estudiar las prácticas más efectivas utilizadas en los sistemas de formación de entrenadores en varios países del mundo. Se utilizaron los siguientes métodos de conocimiento científico: análisis comparativo, método sistemático y clasificación. Como resultado de la investigación realizada, se realizó un análisis en profundidad de los sistemas de formación de entrenadores de fitness en los Estados Unidos de América, Noruega, España y Kazajstán. Se determinó que en el sistema de formación de entrenadores de fitness estadounidense, una característica distintiva es una alta diversidad de programas educativos, que se apoya en la estandarización de las calificaciones. En el contexto del sistema de formación noruego, se hizo hincapié en mantener y desarrollar los principios de salud y actividad, y en la ética profesional de los especialistas, incluido el entrenamiento psicológico y la interacción con los clientes. La consideración del enfoque español demostró la importancia de la estética y la diversidad de la actividad física para los programas educativos locales. Las características específicas de la formación de entrenadores de fitness en España también incluyen cuestiones de motivación y preparación psicológica de los futuros especialistas. En Kazajstán, se ha revelado una combinación de métodos convencionales e innovadores en la formación de entrenadores de fitness, que consiste en estudiar el enfoque pedagógico e introducir las últimas tendencias en fitness. Un examen detallado de los sistemas antes mencionados ayudó a identificar diferencias clave en los enfoques de la ética y la responsabilidad de los entrenadores. Con base en el análisis, se desarrolló y describió un enfoque universal para la capacitación de entrenadores de fitness basado en las mejores prácticas.
Palabras clave: programas educativos; competencias profesionales; estandarización de calificaciones; licencias; mejores prácticas; innovaciones en el deporte.

Introduction

In the modern world, fitness coaching is becoming increasingly important, affecting the health and well-being of society, and the effectiveness of training directly depends on the training of coaches. The relevance of studying fitness coach training systems in the USA, European countries, and the Commonwealth of Independent States (CIS) lies in the differences formed during the development of the fitness industry in educational approaches and requirements for coaches in different parts of the world. The analysis of these differences is necessary to improve the quality of training for fitness coaches, stimulate professional development, and improve services for clients. The problem of the study lies in the absence of a single international and scientifically based quality standard for training coaches, which would establish a training programme for fitness coaches and regulate the processes of certification of specialists. Since each country currently has its own training and licensing procedures for fitness coaches, studying these processes is necessary to prevent risks to the health of clients and identify the most effective practices and procedures in this area (Foster, 2012).

Since fitness training programs shape coaches' expertise and competences in a variety of social and cultural contexts, their efficacy has a direct impact on the quality of services rendered by trainers. Strong training programs are essential to guaranteeing that instructors possess the soft skills needed for psychological support, motivation, and client contact in addition to their technical expertise (Grajcevci

and Shala, 2021; Marchenko and Moskalenko, 2024). In varied cultural situations, where client expectations and societal conventions may vary, the capacity of trainers to adapt their tactics is vital for success. Superior training programs, combining real-world experience, academic understanding, and ongoing professional growth, guarantee that instructors can fulfil the unique requirements of each clientele, boosting the overall efficiency of fitness offerings. This is especially important for promoting health and well-being in many cultural contexts, as customised training methods can meet specific community expectations while maintaining international standards for fitness professionals. As a result, the worldwide fitness sector gains from organised, standardised systems that offer constant quality and permit cultural adaptation.

The problem of the quality of fitness coach training in Kazakhstan and the lack of a single standard has become more noticeable in light of the increased popularity of fitness and the growing demand for professional trainers in the 2000s. With the increasing interest in a healthy lifestyle and fitness, the need for qualified coaches has increased in Kazakhstan. Researchers have already raised the important issue of the need to train fitness coaches in universities. I. Krugovykh et al. (2020) discussed the growing need for qualified personnel in the fitness industry and analysed the competencies required for modern fitness professionals compared to the existing training systems. The authors also presented statistics on Kazakhstan's fitness services market and the contradictions between societal needs and the state of public health. However, representatives of the education and certification system of trainers have neglected the recommendations of scientists, and the system was not unified, which called into question the quality of training and uniform standards in this area.

The study by A. Ten et al. (2021) investigated the models of physical education and sports organisation in Kazakhstan and the world and revealed significant differences in approaches to this issue between Kazakhstan and other countries. The authors examined international and national legal acts that influence practical activities in the field, alongside an analysis of funding sources for physical education and mass sports programs. The researchers concluded that successful models in one country may not always be applicable in another, and it is important to consider the cultural, social, and economic characteristics of each region.

The study by O. Kornosenko (2021) focused on identifying key components and methods that contribute to the effective development of professional skills and knowledge among future coaches and teachers. The researcher concluded that the ability to effectively transfer knowledge and motivate students plays a key role in the professional success of a coach-teacher and recommended that elements aimed at developing leadership qualities, empathy, and communication skills be introduced into curricula. The main focus of the study by M. Norinov and A. Ergashev (2023) was to identify key elements and methods that contribute to the effective development of teachers' professional competence. As a result of the study, the researchers revealed the importance of considering the individual characteristics of a teacher in the development of professional competence, including personal qualities, pedagogical skills, and social competencies.

I. Peltekova et al. (2023) considered the difficulties faced by teachers and identified promising areas for their professional growth. The results of the study showed the need to improve working conditions for teachers of physical education and sports and the creation of mechanisms to support their professional growth. In the course of the study by G. Kopzhanov et al. (2024), various elements of the professional culture of an adaptive physical education and sports specialist were examined. The researchers highlighted the importance of understanding the characteristics of people with disabilities and proved that the development of empathy and understanding the needs of diverse groups of students is a key element of successful professional practice.

The papers reviewed confirmed the interest of the scientific society in researching the issue of training systems for specialists in the field of physical culture and sports. However, previous studies did not disclose aspects of the international experience in training fitness coaches and ways to improve the training system in Kazakhstan. Therefore, the purpose of this study is to identify and analyse the most effective practices used in training systems for trainers in the USA, European countries, and Kazakhstan.

Materials and Methods

This theoretical study was implemented using the following valid methods of scientific cognition: comparative analysis, systematic method, synthesis, deduction, and classification.

The comparative analysis was the main approach of this study and was used to investigate and compare the systems of training and licensing of fitness coaches in the USA, Norway, Spain, and Kazakhstan to identify key features and patterns in each of the systems. The training systems of the following educational institutions and organisations were reviewed: Kazakh Academy of Sports and Tourism, International University of Tourism and Hospitality, National Academy of Sports Medicine (NASM), American Council on Exercise, Spanish Fitness Federation, Norges Functional Fitnessforbund (NOR3F). Countries were selected for comparison based on their diverse cultural, social, and economic contexts, as well as the maturity of their fitness industries and coach certification systems. Additionally, the availability of data on training programs and certification standards was considered to ensure meaningful analysis of each country's approach. The training systems analysed consist of foundational education in anatomy, physiology, and exercise science, followed by practical experience in client interaction and program

design. Certification processes are a key component, ensuring coaches meet professional standards before practicing. Continuous professional development and adherence to ethical standards are also emphasised to keep coaches updated with industry trends and ensure client safety.

The comparison of fitness coach training systems is based on analysing educational frameworks, focusing on the balance between theoretical knowledge, practical skills, and specialised training areas like anatomy and physiology. Certification and licensing processes are examined to assess how each system ensures quality and professional standards. Additionally, the role of continuous professional development and the influence of cultural factors on training design are explored to highlight key differences and best practices across the countries studied. The accessibility of training programs, the integration of innovative teaching methods, and the emphasis on continuous professional development were also considered. The use of this method has helped to identify the strengths and weaknesses of educational programmes, to reveal the different approaches to training and the accents that each country makes in its training programmes for coaches, and to specify key aspects that affect the effectiveness of training systems. It also helped to compare the identified aspects of fitness coach training systems in the USA, Norway, Spain, and Kazakhstan, which provided a deep understanding of their structure and features. The common features characteristic of all systems were revealed, including the unique features of the training systems of each country. As a result of the comparative analysis, the areas in which the systems can mutually enrich each other were revealed, which developed the basis for creating universal principles for training fitness coaches.

The systematic method was used for a comprehensive study of fitness coach training systems in various countries. The systematic method involves a comprehensive breakdown of the training systems into their individual components. Each component is studied in detail to understand how it functions within the broader framework of the training system. This approach helps reveal the interconnections between various elements (e.g., how practical training influences certification success rates) and identifies factors that contribute to the overall effectiveness of each system. This method helped to consider individual components of educational programmes and to identify the interrelationships and the influence of various elements on the effectiveness of training systems: to consider the structure of educational programmes, qualification standards, common features, and key differences in training systems. It was used to reveal the structure and organisation of educational programmes, to identify the basic principles underlying the training of coaches in each of the countries considered. Thus, the systematic method helped to cover many aspects of coach training systems, identify internal relationships and key factors affecting their effectiveness, which, within the framework of the study, gave a deeper understanding of the essence of fitness coach training systems in various cultural and social contexts.

The classification divided the main aspects of training fitness coaches into the following groups: qualification standards, flexibility of educational programmes and individualisation, reinforcement of theoretical knowledge with practice, accessibility, innovation, professional ethics, and methods of improving professional competencies. This categorisation helps to systematically organise the comparison and makes it easier to highlight differences and similarities between the countries. It also became the basis for creating a universal approach to training fitness coaches.

The deduction was used to form general conclusions about the key principles underlying the training of fitness coaches. Based on the analysis of various countries, the study identifies universal elements — such as the importance of practical experience and the need for standardised certification — that contribute to successful outcomes. These conclusions are then used to propose a model for improving fitness coach training systems, ensuring that they meet international standards while addressing local needs. With the help of this method, the need to create a universal approach to the training of fitness coaches was substantiated.

Using the synthesis, the study combined various aspects of fitness coach training systems in the USA, Norway, Spain, and Kazakhstan, which allowed identifying common trends and basic principles underlying educational programmes for fitness coaches and also specifying the best and most promising aspects of each system. This method combines the findings from the comparative and systematic analyses to identify common trends and principles across the fitness coach training systems. For example, it integrates observations on how different countries balance theory and practice, or how they approach continuous learning for coaches. Thus, the synthesis helped to develop a universal approach to the training of fitness coaches based on the best practices identified in the training systems of the USA, Norway, Spain, and Kazakhstan and combined them into one system.

Results

Overview of the fitness coach training system in Kazakhstan

The fitness coach training system is a structured set of educational (practical and theoretical) activities aimed at developing the necessary competencies for future coaches. It is important to note that this system is usually aimed not only at developing theoretical knowledge and practical skills but also contains the necessary information about ethics and professional standards. The fitness coach training system is based on the scientific principles of anatomy, physiology, psychology, training methods, including the basic physiological processes in the human body, the principles of building training programmes, and

psychological support skills for clients (Wackerhage and Schoenfeld, 2021).

In Kazakhstan, the system of training fitness coaches is not unified; training services for future specialists are usually provided privately by various organisations and can be extremely diverse both in content and duration. Usually, programmes are aimed at combining theoretical knowledge and practical skills to train highly qualified specialists in the field of fitness.

By choosing a training programme within the framework of formal education, future coaches can study at the Kazakh Academy of Sports and Tourism (2024), whose curriculum includes modules dedicated to a deeper study of anatomy, physiology, principles of training, and the development of effective communication skills. This educational programme includes a wide range of courses on anatomy, physiology, and psychology of training and specialised lessons on the methodology and preparation of training programmes. The training is aimed at acquiring both theoretical and practical competencies. Practical training includes intensive training sessions where future coaches gain experience in training and interacting with a variety of clients to develop practical skills and adapt to different situations (de Queiros et al., 2021). Coaches may also include internships at private training centres or fitness clubs in their programme to gain hands-on experience. In their study, E. Mukhamedzhanov et al. (2023) demonstrated that nutrition training plays a critical role in improving sports performance and attitudes. Students who participated in a nutrition education program showed significant improvements in their nutritional attitudes and behaviours, as well as enhanced sports performance compared to a control group. This underscores the value of nutrition training in shaping healthier lifestyle choices and supporting athletic achievement, especially in educational and sports contexts.

The International University of Tourism and Hospitality (2024) has a training programme in the field of sports and wellness fitness, including the basics of adaptive physical culture, the study of the Pilates system, functional training, fitness, aerobics, and crossfit, necessary medical and nutritional training, sports and wellness tourism and orienteering, and administration. This extensive programme provides students with in-depth knowledge and skills for a successful career in fitness.

There are also a lot of coach training programmes offered by major fitness clubs. Invictus Academy (2024) offers a programme consisting of 6 blocks, each of which focuses on certain aspects of fitness coach training. The programme provides students with knowledge about the structure and functions of the human body, including the musculoskeletal system, cardiovascular and lymphatic systems, bones, and muscles, and examines in depth the central nervous system, the energy system, and the influence of physiology on athletic performance (Wolan-Nieroda et al., 2018). Further training includes the fundamentals of training, getting started with a client, screening, selection of training methods, and training programming; the student gets an understanding of the types of muscle contractions, muscle load distribution, and equipment use, learns the basics of dietetics, including criteria for achieving goals, counting proteins, fats, and carbohydrates, and the effect of hormones on goal achievement. At the end of the training, the student undergoes an internship that includes working with various equipment, knee-dominant and pelvic dominant exercises, vertical and horizontal presses, deadlifts, and also receives practical guidance on monitoring and achieving clients' goals. Studying anatomy and body physiology is essential for developing the scientific and practical competencies required in various health and fitness professions (Matsukhova and Mykytchyk, 2024). M.A.W. Alsoub (2024) emphasises the importance of focusing on courses related to health sciences, such as functional anatomy and physiology, which are crucial for understanding the human body's structure and functions. Future workers that study anatomy and physiology in academic programs will be more equipped to fulfil market demands and provide high-quality services.

The fitness coach school WorldClass Astana (2024) offers future coaches various training areas, including a fitness coach for groups, water programmes, a children's club, and a gym. As part of the training, students can choose an area that suits their interests. The programme teaches the basics of anatomy, physiology, exercise programming and biomechanics and includes training in a variety of areas and working with clients. The programme provides students with comprehensive knowledge and practical experience for successful work in the gym and conducting group classes.

It is important to note that in Kazakhstan, the training of fitness coaches involves both the study of conventional academic information and the use of innovative methods and techniques (Kuspanov et al., 2024). During the training, special attention is paid to the study of pedagogical techniques and interaction with various groups of clients; coaches are trained in effective communication strategies for successful interaction with clients. In addition, much attention is paid to the development of ethical principles in coaching, which is an important component of professional behaviour. The fitness coach training system in Kazakhstan is aimed at creating qualified specialists who are ready to effectively respond to the diverse requirements of the modern fitness market and provide a high level of service to customers.

Overview of the fitness coach training system in the USA

In the United States, the fitness coach training system is highly developed and characterised by a multi-level approach aimed at the development of highly qualified fitness professionals. Future coaches may receive training in techniques provided by organisations such as the National Academy of Sports Medicine (2024), where they learn how

to teach and interact with various clients, and programmes provided by the American Council on Exercise (ACE) (2024a; 2024b) may include modules on developing effective communication skills.

An important component of the American training system includes educational programmes that provide fundamental knowledge of anatomy, physiology, and exercise psychology. The considered specialised courses on the methodology and preparation of training programmes provide practical skills necessary for successful coaching. The systems include extensive and diverse practical classes where future coaches gain experience in training and interacting with clients in real conditions, which contributes to the development of confidence and professionalism (Bazylevych et al., 2022).

Methods of training and interacting with diverse groups of clients are actually key elements in the American system of training fitness coaches after learning information about human anatomy and physiology. This includes the development of effective communication skills necessary for effective interaction with clients. Trainers in the USA are constantly improving their skills by participating in seminars, conferences, and trainings, learning new scientific research and fitness trends. High priority is given to the development of ethical principles in coaching, which maintain the level of customer trust and emphasise the professionalism of the coach (Volkivsky and Tsaruk, 2023).

The certification process of specialists includes mandatory exams at the end of the training programme, after successful completion of which the trainers receive the appropriate certificates. Licensing ensures compliance with professional standards and laws governing coaching (Eickhoff-Shemek and Herbet, 2008). All these elements make up an integrated approach that ensures a high level of qualification and professionalism of fitness coaches in the United States, which contributes to high-quality and safe training practice.

Overview of the fitness coach training system in Spain

In Spain, the fitness coach training system is distinguished by its structurality and attention to the scientific and practical aspects of training. Often, the training of coaches is carried out by private structures, whose curricula include courses on anatomy, physiology, and psychology of training and specialised lessons on the methodology and programming of training. This complex provides coaches not only with theoretical knowledge and practical skills but also develops a certain aesthetic perception. An important part of the training is practical training, including training in functional coaching skills and experience working with various clients, which contributes to the development of competencies of trainers with a wide range of skills and flexibility in working with different groups of clients (International Commentary of..., 2023).

The presence of a large number of schools for the training of fitness coaches has become an incentive for the implementation of clear certification standards: the process of legalising fitness coaches in Spain provides for successful completion of exams after completing courses, which guarantees the receipt of appropriate certificates. Licensing emphasises compliance by coaches with professional standards and laws (Llopis-Goig et al., 2017). To work in Spain, a fitness coach must receive a certificate from a national or international accredited organisation, such as the Spanish Fitness Federation (2024).

The training system pays attention to teaching methods and interaction with clients so that trainers can effectively apply their knowledge in practice (Batrakoulis et al., 2023). Developing communication skills is considered a key element of success. Coaches in Spain also strive to constantly update their knowledge by participating in seminars, conferences, and trainings, which allows them to stay up to date with the latest developments and new trends in the field of fitness. High attention is paid to the development of ethical principles in coaching, which contributes to the trust of clients and maintains the high professional status of the coach. The fitness coach training system in Spain is focused on creating qualified and ethical professionals able to respond effectively to the needs of their clients.

Overview of the fitness coach training system in Norway

In Norway, the fitness coach training system is characterised by high quality standards, innovative approaches, and an emphasis on the health and well-being of clients (Bratland-Sanda et al., 2020). Fitness coaches can get an education in private or public schools and institutes. However, programmes often include a wide range of disciplines, such as anatomy, physiology, psychology of training, and a healthy lifestyle. The training includes intensive hands-on training, where future coaches gain experience in training and coaching clients under the guidance of experienced instructors. This contributes to the development of not only physical skills but also customer interaction skills.

Coaches receive certification after successfully passing exams and completing training programmes. Licensing is carried out in accordance with national standards and regulations. Methods of training and interaction with clients are key aspects of training programmes. Trainers learn effective communication strategies and motivation methods, adapting to the individual needs of clients. Professional development and constant updating of knowledge are actively supported by organisations conducting seminars, workshops, and conferences.

Norwegian coaches focus on ethical principles in their work (Lloyd and Payne, 2013). The fitness coach training system in Norway strives to ensure high professionalism, take care of the health of clients, and stimulate an innovative approach to training. Some of the available training programmes include mandatory internships in specialised gyms or fitness clubs, which gives the future coach the

opportunity to apply the knowledge gained in practice. A coach who decides to undergo pedagogical training in Norway can choose courses at educational institutions, for example, Norges Functional Fitnessforbund (2024), whose programmes include extensive knowledge of physiology, psychology of training, teaching methods, and interaction with clients.

An official trainer's license in Norway is issued at Helsedirektoratet (Directorate of Health) after qualification verification and confirmation of compliance with professional standards (Lloyd and Payne, 2018). The system encourages trainers to constantly update their knowledge. NOR3F provides access to regular seminars and webinars and supports coaches in finding new trends and techniques.

Table 1 reveals the strengths and weaknesses of each of the considered fintech training systems in the four countries.

Table 1.
Comparison of fitness coach training systems in the USA, Norway, Spain, and Kazakhstan

Country	Strengths	Weaknesses
USA	Well-developed education and certification infrastructure with many organisations, including ACE, NASM. Wide range of specialised programmes and advanced courses for trainers.	Diversity of organisations can lead to ambiguity in the quality of certification. High education costs, which may create barriers for some candidates.
Norway	Emphasis on high level of education and qualification standards. Extensive opportunities for practical internships and the application of knowledge in real conditions.	High tuition fees. Possible difficulties in accessing education for non-residents.
Spain	Flexible educational programmes tailored to the diversity of clients. Emphasis on practical aspects and customer interaction.	Significant diversity in the quality of programmes and requirements depending on the region. Possible problems with unambiguity in the certification system.
Kazakhstan	Growing interest in fitness, which contributes to the development of educational programmes. Possibility to integrate modern technologies and techniques into educational programmes.	Ambiguity in standards and certification. Insufficient standardisation and coordination between different organisations.

Source: compiled by the authors.

Research on fitness trends, engagement, and professional standards across various countries highlights the significance of employing certified professionals and adapting training programs to individual needs. For instance, the focus on hiring certified trainers in countries like Spain and globally, as observed by L. Oscar et al. (2024), reflects a growing recognition of the importance of maintaining professional standards in fitness coaching. Ensuring that coaches are well-qualified enables them to deliver effective, safe services, fostering a higher level of trust and satisfaction among clients. Additionally, the rise of personalised training and small group sessions, identified in Spain and Portugal by S. Franco et al. (2024), reflects the growing demand for adaptable fitness programs that cater to specific client needs. These tailored approaches contribute to improved engagement and fitness outcomes, as shown in the study by L. Chen (2024), where exercise prescriptions for students led to notable gains in physical performance. Such flexible training models are key to sustaining long-term client participation in fitness routines.

The role of social media influencers in promoting fitness also underscores the value of knowledgeable trainers and personalised guidance. According to D.R. Moreno et al. (2023), influencers effectively motivate followers through practical advice on nutrition and customised workout plans, illustrating the impact that informed, certified trainers can have in shaping health behaviours and improving fitness outcomes. Even though online fitness classes continue to grow in popularity, as A. Ntovoli et al. (2024) showed, traditional in-person sessions are still viewed as more enjoyable by many participants, highlighting the continued importance of direct, interactive training environments for fostering client satisfaction and long-term engagement.

Considering the revealed strengths and weaknesses in fitness coach training systems in the USA, Norway, Spain, and Kazakhstan, it became possible to develop a universal approach based on best practices, which involves the introduction of a number of key principles that contribute to improving the quality of education and training of coaches and their successful adaptation to the diverse needs of clients.

The central aspect is the creation of a single qualification standard for fitness coaches that meets international standards, which in the future can guarantee the establishment of common criteria for competence and evaluation of professional training, ensuring a uniform level of quality in the industry. It is recommended to develop flexible educational programmes aimed at a variety of clients and their individual needs. Adapting to different training approaches based on the characteristics of different age groups, diseases, and physical fitness levels would allow coaches to work effectively with a variety of clients. The support of theoretical knowledge with practical experience, internships, and training in real conditions is an integral part of the training of coaches. The practical skills acquired in the process of interacting with clients and conducting training are key to a successful coaching career. The creation of accessible educational programmes is designed to eliminate financial barriers and provide an opportunity for a wide range of candidates to receive high-quality education, it promotes diversity and inclusion in the fitness industry. The integration of a system of continuous

updating of knowledge for coaches in accordance with the latest trends and scientific research is also a necessary component. Trends in the fitness industry are constantly changing, and coaches should be aware of the latest innovations and scientific discoveries (Wang et al., 2021).

The effectiveness of the coach training system largely determines the level of professionalism in the fitness industry and affects the health and well-being of clients (Melton et al., 2021). The training of fitness coaches is a set of activities aimed at developing the necessary competencies for future trainers, an important part of which is practical training, including training in coaching skills and working with clients in real conditions (Trybulski et al., 2024; Sylejmani et al., 2019). A typical process concludes with certification and licensing, including passing examinations and obtaining the appropriate certificates, and obtaining a license to legally practice the profession.

An important aspect is pedagogical training, which includes teaching methods and interaction with various groups of clients and the development of effective communication skills. Coaches should keep their knowledge relevant by participating in the professional community, attending seminars, conferences, and trainings, and independently studying the latest scientific research and trends in the field of fitness (Guo et al., 2023; Bondarenko et al., 2024).

Ethical standards are also fundamental elements of the training system. Coaches form an understanding of ethical principles in their activities and strive to comply with professional standards and norms. Thus, the fitness coach training system creates an integrated approach, ensuring a high level of professionalism in the industry and is designed to improve the effectiveness of training and the well-being of clients.

Discussion

The results of the study revealed the importance of studying international experience in the field of training fitness coaches to improve the quality of education, maintain the health and safety of clients, and the development and effectiveness of the fitness industry. A universal approach to improving the quality of training for fitness specialists was also described. Although there might be some challenges when implementing it globally. A universal training approach may not be accepted or adapted in all nations due to differences in views towards physical fitness, health, and the function of fitness experts. More intense or standardised training programs may encounter resistance in areas where fitness is not generally valued. Economic difficulties could arise from resource gaps between industrialised and developing nations. It's possible that many impoverished countries lack the funding or infrastructure needed to offer fitness trainers certification courses, training centres, or ongoing professional development. Countries differ widely in their health and fitness regulations and laws, with some governments giving the fitness industry less attention than others. A lack of support for the development of standardised certifications could result from divergent political agendas, making it challenging to guarantee uniformity and quality globally.

A review of studies by other authors was conducted to consider additional aspects and views of the scientific community on this topic. The study by L. Rubin and S. Stokowski (2023) revealed the key pedagogical principles and features related to effective fitness training in the context of higher education. The researchers investigated various aspects of the pedagogical process in the field of fitness training, including methods for assessing student success, and concluded that it is important to integrate theoretical knowledge with practical experience through active teaching methods such as practical classes, laboratory work, and internships. It was concluded that a variety of assessment forms, including portfolios, practical projects, and independent research, contribute to a more complete and objective assessment of the level of students' training, which corresponds to the results obtained in the course of this study and conclusions about the importance of a variety of assessment methods. By promoting active learning strategies, future fitness instructors can obtain practical experience that enhances their capacity to implement theoretical ideas in practical settings. The research also agreed on the importance of practical training and internships for effective training of specialists. Thus, it can be concluded that a deeper and more comprehensive understanding of the training process of fitness coaches can improve the quality of practical and theoretical training of specialists in this field.

L. Oliver et al. (2024) examined various approaches to assessing physical activity and physical fitness in the sports education model. The researchers examined the use of various measurement methods, including physiological parameters, pedagogical tools, monitoring technologies, and identified the main trends in the use of innovative technologies to assess physical activity and physical fitness in sports education. In the context of these results, the study revealed the importance of developing a single qualification standard for fitness coaches and emphasised the importance of establishing common criteria for competence and evaluating the professional training of trainers to ensure a uniform level of quality in the fitness industry. The study also revealed that modern technologies such as wearable devices and monitoring programmes provide more accurate and dynamic data, contributing to a more complete understanding of the level of physical activity of students, which confirmed the conclusions obtained during the study on the importance of innovations in the effective training of fitness coaches.

The study by J. Liu and Y. Wang (2023) focused on the investigation of the relationship and interaction between physical education and the national fitness system and on methods of integrating these two aspects to increase physical activity of the population, starting with physical training in classrooms and ending with participation in sports events. The researchers considered the role of

physical education in shaping the foundations of a healthy lifestyle and physical activity among students and the importance of transferring acquired knowledge and skills from classrooms into everyday life, which complements the understanding of the relationship between education and fitness. For fitness coaches, this approach translates to a greater focus on not just improving physical performance but also instilling lifelong fitness habits in clients, improving long-term health outcomes. The reviewed study showed the importance of creating partnerships between educational institutions, public organisations, and authorities for the joint implementation of national physical activity and fitness programmes. The described concept is an essential addition to the high standards of qualification and an effective training system proposed in the study for the implementation of the main goal – the popularisation of sports and the preservation of public health.

A paper by Jamhari et al. (2023) analysed measures to increase physical fitness through physical education after the COVID-19 pandemic. The attention of researchers was focused on identifying changes and approaches aimed at increasing the level of physical activity and maintaining public health in the period after the COVID-19 pandemic. The study analysed the impact of the pandemic on the level of physical activity in society and revealed the effects of social isolation, limited access to sports events, and increased time spent indoors, which complemented the results of the current study, shifting the focus to the transformation of physical education systems in changing conditions as the introduction of hybrid and online learning formats reveals the need for innovation in the educational process. Coaches who adapt to these new methods can reach a wider audience and offer flexible training options, ensuring continuity of fitness programs even under challenging circumstances. This adaptability enhances the effectiveness of coaches in maintaining client engagement. The researchers concluded that the introduction of hybrid and online learning formats and the revision of physical education programmes, have become key elements in adapting to new conditions, which confirms the conclusion that it is important to introduce innovative methods and technologies into physical education to stimulate interest in classes and ensure an effective increase in physical fitness.

Another important aspect of fitness coach training is the willingness to work with clients who have special limiting health conditions. S. Salik et al. (2023) investigated the effects of a combined aerobic-strength training complex compared with a standard fitness programme in patients with chronic obstructive pulmonary disease (COPD). The researchers have identified differences in the application of these two approaches and their impact on the physical condition and overall well-being of patients with COPD. The positive effect of combined aerobic and strength training on physical endurance, strength, breathing parameters, energy metabolism, and general functionality of clients' lungs and psychological aspects of clients' lives were revealed for a deeper understanding of the relationship between their physical and psychological well-being, which indicates the importance of expanding the list of techniques in the training of fitness coaches to ensure the high quality of the services provided.

Y. Astuti et al. (2024) assessed the effectiveness of the use of sports and gaming modifications and the introduction of mini-games into the educational process. The researchers have identified the positive effects of these modifications and mini-games on overall physical fitness, changes in physical activity, coordination of movements, and overall motivation of students, especially students with disabilities who participate in an adaptive physical education course. Since the study did not cover the topic of providing individualised services or services for people with special needs, the information presented in this paper on the use of adaptive methods in physical education and the introduction of various formats of games to stimulate physical activity is a significant addition to the study. Since the researchers concluded that adapting workouts to the individual needs and abilities of clients can significantly improve their physical fitness, sports experience and have a positive impact on overall well-being and social integration, the introduction of training modules aimed at working fitness coaches with people with special needs may be one of the innovations in the Kazakh system training of specialists.

Y. Bulca et al. (2022) investigated the effect of using a short video programme of physical activity on the level of physical fitness of students and on their general physical condition. During the study, the researchers identified changes in physical endurance, strength, and flexibility and in psychological aspects such as motivation and level of learning activity. As a result, the researchers concluded that short video programmes can stimulate students' interest in physical activity and serve as an effective tool to improve their physical fitness. These results indicate an additional promising method of training fitness coaches, the implementation of which does not require large financial or time expenditures, but the positive effect of which promises the development of both physical and psychological indicators. Fitness coaches who integrate video resources into their training regimens can offer clients flexible and accessible workout solutions (Szymczyk et al., 2022). This approach also helps in maintaining client engagement and progress when in-person sessions are not possible. To do this, the researchers provided practical information on how the use of video materials can be integrated into the educational process to improve the physical fitness of students, noting the importance of consideration of the individual preferences of students when creating such video programmes to maximise their effectiveness and attractiveness.

The reviewed studies have demonstrated that today the scientific community is actively studying various aspects of education and physical activity, in particular, in the context of fitness, physical education, and healthcare. In general, it can be noted that researchers agree on the importance of integrating innovations and technologies into the processes

of training specialists, adapting training programmes to the individual needs of students, and teaching the use of individualised approaches to provide quality services in the field of sports.

Conclusions

The conducted research contributed to the expansion of understanding of current trends and problems in the field of fitness coach training and the subsequent identification of significant conclusions for the development of the fitness industry and education in this area. In the course of the study, differences in the training systems of fitness coaches in the USA, Norway, Spain, and Kazakhstan were revealed, which helped to describe differences in approaches to training trainers in different parts of the world. These differences included individualised programmes in the United States, an emphasis on health and activity principles in Norway, attention to aesthetics and diversity in Spain, and a combination of conventional and innovative methods in Kazakhstan. A detailed study of these systems helped to identify key aspects that affect the effectiveness of coach training, among which the most significant were the variety of educational programmes, standardisation of qualifications, and accessibility of training.

The results of the work demonstrated that countries with different cultural environments prefer different approaches to ethics and the responsibility of the coach. For example, in Norway and the USA, more emphasis is placed on professional ethics and customer interaction, while in Spain and Kazakhstan, more attention is paid to motivation and psychological training. Thus, the significant role of pedagogical training and ethical standards in the development of a successful coach was revealed, and the participation of coaches in professional communities, exchange of experience, and continuous improvement were identified as necessary practices in the process of creating responsible and ethical professionals.

Consideration of the American, Norwegian, Spanish, and Kazakh fitness coach training systems demonstrated the existing diversity of trainer training systems and helped to substantiate the need to develop unified and effective training methods that could meet the diverse needs of the fitness industry on a global scale. Thus, a universal approach to learning based on best practices was proposed. The creation of a single standard of qualifications, flexible educational programmes, and a system of constant updating of knowledge is extremely important in the context of a rapidly changing industry.

Further research is recommended to focus on the development of a universal training programme for fitness coaches based on the approach proposed in this study and its testing on a sample of future specialists in various countries of the world. Such a study will determine the effectiveness of the proposed approach in practice, identify its shortcomings, and allow adjustments to be made according to cultural differences and the needs of students to create a more advanced training methodology for fitness coaches.

References

Alsoub, M.A.W. (2024). Scientific and practical competencies, communication skills, evaluation and ability to work among the graduates of sports rehabilitation. *Revista Iberoamericana de Psicologia del Ejercicio y el Deporte*, *19*(1), 38-44. https://www.riped-online.com/articles/scientific-and-practical-competencies-communication-skills-evaluation-and-ability-to-work-among-the-graduates-of-sports-rehabilita-105221.html

American Council on Exercise. (2024a). *Achieve lasting success as an ACE Certified Personal Trainer*. https://www.acefitness.org/fitness-certifications/personal-trainer-certification/default.aspx (assessed 9 Sep 2024).

American Council on Exercise. (2024b). Personal trainer certification. https://www.acefitness.org/fitness-certifications/personal-trainer-certification/default.aspx (assessed 9 Sep 2024).

Astuti, Y., Erianti, E., Amsari, D., Novita Sari, D. (2024). The effect of sports modifications and mini games to improve students' physical fitness in the adaptive physical education course. *Retos*, *51*, 519-525. https://doi.org/10.47197/retos.v51.99975

Batrakoulis, A., Veiga, O.L., Franco, S., Thomas, E., Alexopoulos, A., Valcarce-Torrente, M., Santos-Rocha, R., Ramalho, F., Di Credico, A., Vitucci, D., Ramos, L., Simões, V., Romero-Caballero, A., Vieira, I., Mancini, A., Bianco, A. (2023). Health and fitness trends in Southern Europe for 2023: A cross-sectional survey. *AIMS Public Health*, *10*(2), 378-408. https://doi.org/10.3934/publichealth.2023028

Bazylevych, N., Tonkonog, O., Yurchenko, I. (2022). Ways of improvement physical fitness of students by means of athletics. *Theory and Practice of Physical Culture and Sports*, *1*(1), 36-41.

Bondarenko, V., Kornosenko, O., Serhieiev, M. (2024). Regulation of physical culture and sport: Analysis of the field of research. *Pedagogical Sciences*, *27*(1), 27-33.

Bratland-Sanda, S., Vikøren Myhre, T.H., Tangen, J.O. (2020). Norwegian fitness industry: From bodybuilding to a public health partner. In: *The Rise and Size of the Fitness Industry in Europe: Fit for the Future?* (pp. 327-347). Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-53348-9_15

Bulca, L., Bilgin, E., Altay, F., Demirhan, G. (2022). Effects of a short video physical activity program on physical fitness among physical education students. *Perceptual and Motor Skills*, *129*(3), 932-945. https://doi.org/10.1177/00315125221088069

Chen, L. (2024). Innovative research on physical education models in colleges and universities. *Applied Mathematics and Nonlinear Sciences*, *9*(1), 20242331. https://doi.org/10.2478/amns-2024-2331

Denysovets, T., Kvak, O., Hohots, V. (2024). Current problems of physical education and ways of improving the professional training of future teachers of physical education. *Pedagogical Sciences*, *27*(1), 70-76.

Eickhoff-Shemek, J., Herbet, D.L. (2008). Is licensure in your future? Issues to consider part 3. *ACSM's Health & Fitness Journal*, *12*(3), 36-38.

Foster, L. (2012). *Professionalization of personal trainers in the fitness industry*. Morgantown: West Virginia University.

Franco, S., Simões, V., Santos-Rocha, R., Vieira, I., Ramalho, F., Ramos, L. (2024). Fitness trends in Portugal for 2024. *Retos*, *57*, 88-100. https://doi.org/10.47197/retos.v57.105198

Grajcevci, A., Shala, A. (2021). Exploring achievement goals tendencies in students: the link between achievement goals and types of motivation. *Journal of Education Culture and Society*, *12*(1), 265-282. https://doi.org/10.15503/jecs2021.1.265.282

Guo, S., Izydorczyk, B., Lipowska, M., Lizinczyk, S., Kamionka, A., Sajewicz-Radtke, U., Radtke, B.M., Liu, T., Lipowski, M. (2023). Sociocultural predictors of obligatory exercise in young men: A Polish-Chinese comparison. *Frontiers in Psychiatry*, *14*, 1123864. https://doi.org/10.3389/fpsyt.2023.1123864

International Commentary of the Worldwide Survey of Fitness Trends. (2023). *ACSM's Health &Fitness Journal*, *27*(1), 31-35. https://doi.org/10.1249/FIT.0000000000000835

International University of Tourism and Hospitality. (2024). *6B11107 – Sports and wellness fitness*. https://iuth.edu.kz/en/2022/07/04/6b11107-sports-and-wellness-fitness/ (assessed 8 Sep 2024).

Invictus Academy. (2024). *Programme. Gym trainer course*. https://invictusacademy.kz/programgym (assessed 4 Sep 2024).

Jamhari, Ramadhan, T., Wargama, I.M.D.S. (2023). Analysis of increasing physical fitness through physical education after the Covid-19 pandemic. *Kinesthetic: A Scientific Journal of Physical Education*, *7*(1), 149-158. https://doi.org/10.33369/jk.v7i1.26899

Kazakh Academy of Sports and Tourism. (2024). *6IN01403 Adaptive Physical Culture and Sport*. https://shorturl.at/BUWY8 (assessed 5 Sep 2024).

Kopzhanov, G., Doshybekov, A., Belegova, A., Orlov, A., Duisembek, A. (2024). Forming the professional culture of a future specialist in the field of adaptive physical education and sport. *Retos*, *51*, 800-807. https://doi.org/10.47197/retos.v51.100940

Kornosenko, O. (2021). Professional competencies as a component of professional training of a fitness trainer-teacher in higher education institutions. *Journal for Educators, Teachers and Trainers*, *12*(1), 67-71. https://jett.labosfor.com/index.php/jett/article/view/516

Krugovykh, I., Taubaeva, Sh., Ongarbaeva, D., Madieva, G., Areshchenko, A. (2020). On the question of the need for training fitness specialists in the higher education system, taken into consideration of modern conditions of development of Kazakhstan. *Theory and Methodology of Physical Culture*, *59*(1), 34-38. http://rmebrk.kz/journals/6056/29157.pdf#page=34

Kuspanov, N., Botagariyev, T., Ryskaliyev, S., Doshybekov, A., Syzdykov, A., Gabitov, A. (2024). The influence of information technology on the professional readiness of future trainers in Kazaksha kures. *Retos*, *51*, 365-372. https://doi.org/10.47197/retos.v51.100350

Liu, J., Wang, Y. (2023). Physical education and nationwide fitness: Interaction and integration from physical education classroom to community sports. *Dean & Francis*, *1*(1), AL000092. https://doi.org/10.61173/a1389470

Llopis-Goig, R., Vilanova, A., Martín Sánchez, J. (2017). SPAIN: Evolution and characteristics of the private sport sector – Focus on fitness centres and gyms. In: *The Private Sport Sector in Europe: A Cross-National Comparative Perspective* (pp. 309-324). Cham: Springer. https://doi.org/10.1007/978-3-319-61310-9_18

Lloyd, C., Payne, J. (2013). Changing job roles in the Norwegian and UK fitness industry: In search of national institutional effects. *Work, Employment and Society*, *27*(1), 3-20. https://doi.org/10.1177/0950017012460325

Lloyd, C., Payne, J. (2018). Licensed to skill? The impact of occupational regulation on fitness instructors. *European Journal of Industrial Relations*, *24*(1), 91-108. https://doi.org/10.1177/0959680117701016

Marchenko, O., Moskalenko, O. (2024). Features of the needs and motivational sphere of the personality of future specialists in physical culture and sports. *Theory and Practice of Physical Culture and Sports,* *3*(1), 27-34. https://doi.org/10.69587/tppcs/1.2024.27

Matsukhova, Y., Mykytchyk, O. (2024). Physical condition of first-level higher education students studying pedagogical specialties. *Theory and Practice of Physical Culture and Sports*, *3*(1), 35-41. https://doi.org/10.69587/tppcs/1.2024.35

Melton, B., Romanchik-Cerpovicz, J., Ryan, G., Gallagher, C. (2021). The influence of education on the nutritional knowledge of certified fitness professionals. *International Journal of Exercise Science*, *14*(4), 239-249. https://digitalcommons.wku.edu/ijes/vol14/iss4/3/

Moreno, D.R., Quintana, J.G., Riaño, E.R. (2023). Impact and engagement of sport & fitness influencers: A challenge for health education media literacy. *Online Journal of Communication and Media Technologies*, *13*(3), e202334. https://doi.org/10.30935/ojcmt/13309

1. Mukhamedzhanov, E., Tsitsurin, V., Zhakiyanova, Zh., Akhmetova, B., Tarjibayeva, S. (2023). The effect of nutrition education on nutritional behavior, academic and sports achievement and attitudes. *International Journal of Education in Mathematics, Science, and Technology (IJEMST)*, *11*(2), 358-374. https://doi.org/10.46328/ijemst.3133

National Academy of Sports Medicine. (2024). *Certified personal trainer*. https://www.nasm.org/become-a-personal-trainer (assessed 6 Sep 2024).

Norges Functional Fitnessforbund. (2024). *Functional fitness*. https://nor3f.no/functional-fitness/ (assessed 7 Sep 2024).

Norinov, M., Ergashev, A. (2023). Aspects of the formation of teacher professional competence. *American Journal of Pedagogical and Educational Research*, *16*, 192-197. https://americanjournal.org/index.php/ajper/article/view/1284

Ntovoli, A., Zourladani, A., Alexandris, K. (2024). Traditional exercise vs. online fitness classes: A comparison based on participants' enjoyment. *Retos*, *61*, 714-721. https://doi.org/10.47197/retos.v61.108186

Oliver, L., Wahl Alexander, Z., Meléndez Nieves, A. (2024). Evaluating physical activity and fitness in sport education model: A systematic review. *Spanish Journal of Physical Education and Sports*, *437*(4), 10-47.

Oscar, L., Palos, J.J., Valcarce-Torrente, M. (2024). National survey of fitness trends in Spain for 2024. *Retos*, *51*, 1351-1363. https://doi.org/10.47197/retos.v51.101717

Peltekova, I., Seisenbekov, Y., Iskakov, T., Kokebayeva, R., Baigutov, K. (2023). Problems and opportunities related to the professional development of teachers of physical

education and sport in the university. *SHS Web of Conferences*, *176*, 04012. https://doi.org/10.1051/shsconf/202317604012

Rubin, L., Stokowski, S. (2023). Pedagogical considerations between teaching fitness and in higher education. *Kentucky SHAPE Journal*, *61*(1), 25-33. https://krex.k-state.edu/server/api/core/bitstreams/10ccc4fd-5f24-43c5-ad0d-f3fe130cd539/content

Salik, S., Shafee, I., Zia, A., Rani, S., Manzoor, S., Asghar, M. (2023). Effects of combined aerobic strength training versus fitness education program in COPD. *Journal of Xi'an Shiyou University, Natural Science Edition*, *19*(2), 789-797. https://www.xisdxjxsu.asia/viewarticle.php?aid=1887

Spanish Fitness Federation. (2024). https://fedfitness.org/registro-de-entrenadores/ (assessed 6 Sep 2024).

Sylejmani, B., Myrtaj, N., Maliqi, A., Gontarev, S., Georgiev, G., Kalac, R. (2019). Physical fitness in children and adolescents in rural and urban areas. *Journal of Human Sport and Exercise,* *14*(4), 866-875. https://doi.org/10.14198/jhse.2019.144.15

Szymczyk, P., Węgrzynowicz, K., Trybulski, R., Spieszny, M., Ewertowska, P., Wilk, M., Krzysztofik, M. (2022). Acute Effects of Percussive Massage Treatment on Drop Jump Performance and Achilles Tendon Stiffness. *International Journal of Environmental Research and Public Health*, *19*(22), 15187. https://doi.org/10.3390/ijerph192215187

Ten, A., Almukhanbetova, G., Shepetyuk, M., Zaurenbekov, B., Baitasov, E. (2021). Comparative analysis of the organization of physical education and mass sport in Kazakhstan and other countries. *Theory and Methods of Physical Education*, *63*(1), 30-34. https://doi.org/10.48114/2306-5540_2021_1_30

2. Trybulski, R., Kuzdzal, A., Bichowska-Paweska, M., Vovkanych, A., Kawczynski, A., Biolik, G., Muracki, J. (2024). Immediate Effect of Cryo-Compression Therapy on Biomechanical Properties and Perfusion of Forearm Muscles in Mixed Martial Arts Fighters. *Journal of Clinical Medicine*, *13*(4), 1177. https://doi.org/10.3390/jcm13041177

Volkivsky, M., Tsaruk, V. (2023). Components of professional training of future physical education teachers. *Theory and Practice of Physical Culture and Sports*, *2*(1), 157-162. https://ehsupir.uhsp.edu.ua/items/54ceac69-bb81-47b7-8a5b-b6a3b93908cb

Wackerhage, H., Schoenfeld, B. (2021). Personalized, evidence-informed training plans and exercise prescriptions for performance, fitness and health. *Sports Medicine*, *51*, 1805-1813. https://doi.org/10.1007/s40279-021-01495-w

Wang, T., Gan, Y., Arena, S., Chitkushev, L., Zhang, G., Rawassizadeh, R. (2021). Advances for indoor fitness tracking, coaching, and motivation: A review of existing technological advances. *IEEE Systems, Man, and Cybernetics Magazine*, *7*(1), 4-14. https://doi.org/10.1109/MSMC.2020.3017936

Wolan-Nieroda, A., Maciejczak, A., Przysada, G., Kuzdzal, A., Magon, G., Czarnota, M., Druzbicki, M., Guzik, A. (2018). Assessment of cervical range of motion in patients after axis fracture. *Neurologia i Neurochirurgia Polska*, *52*(3), 334-340. https://doi.org/10.1016/j.pjnns.2017.11.013

WorldClass Astana. (2024). *Fitness programmes*. https://www.astana.worldclass.kz/uslugi/fitness/ (assessed 8 Sep 2024).

Datos de los/as autores/as y traductor/a:

Ilya Krugovykh	krugovykhi@gmail.com	Autor/a
Vitaliy Avsiyevich	v_avsiyevich@outlook.com	Autor/a
Zhanna Sabyrbek	sabyrbek.zha@hotmail.com	Autor/a
Toktassyn Bekbolatov	bekbolatov.t@outlook.com	Autor/a
Sharkul Taubayeva	s_taubayeva@hotmail.com	Autor/a
Kira Almazova	almazovakira8@gmail.com	Traductor/a