Priority of theoretical preparation for cyclic sports (on the material of examination of sportsmans and trainers)

Viktoriia Bohuslavska
Vinnitsa State Mykhaïlo Kotsyubynskyi Pedagogical University, Lviv State University of Physical Culture, Lviv, Ukraine

Summary
The article presents the results of a survey of qualified athletes and trainers for the priority of the use of various means of theoretical training in the process of multi-year sport improvement in cyclic sports. The survey was attended by 146 qualified athletes and 82 trainers from sports such as rowing, swimming, track and field (running and walking), and ski races. The following research methods were used in the work: theoretical analysis and generalization of literary sources, studying of documentary materials, analysis of personal data, methods of mathematical statistics. It has been established that the need to apply such theoretical training materials as collections of scientific articles, study aids, monographs, electronic and audio books, lectures, pedagogical testing, Internet search services increases with each subsequent stage of preparation of athletes. In contrast, the significance of the use of posters, drawings, brochures, animations, documentaries and feature films, games and practical events is reduced with increasing athletic athleticism. At the same time, the most effective means of theoretical training, the majority of respondents note the use of search services Internet and the latest technical means of training at all stages of training.

Keywords: theoretical training, means of theoretical training, cyclic sports

Introduction
The effectiveness of competitive activities depends not only on the level of physical, technical, tactical, psychological preparedness of athletes [9, 10], but also on a certain level of knowledge of the sport, which is achieved in the process of theoretical training [4, 8]. The theoretical training is a peculiar basis for all other parties of training, which is aimed at equipping an athlete with special knowledge for successful training and adventure activities [1, 2, 3].

At the same time ignoring theoretical training leads to the lack of understanding by the athlete of the essence of the tasks performed in the training sessions, which, in turn, generates passivity and leads to a mechanical repetition of the exercises. The lack of activity and creative approach of an athlete to the performance of training tasks violates the feedback in the «trainer-athlete» system, reduces the efficiency of occupations, which makes it impossible to achieve high sports results [1, 2, 9].

In recent years, many studies have been conducted on theoretical training in sports [5, 6, 7, 10]. At the same time, the problem of theoretical training of athletes, namely in cycling sports, was not given due attention.

Consequently, the relevance of this work determines the scientific and applied problem of theoretical training in cyclic sports, which is determined by the contradictions between: the evident need for theoretical preparation and the lack of a program-normative base and proper scientific and methodological substantiation of the structure and content of theoretical training in cyclic sports.

The purpose of the study was to determine the priority of the means of theoretical training at various stages of multi-year sport improvement in cyclic sports.

Methods
In order to find out the opinions of sports experts, 146 qualified athletes (67 rowers, 29 swimmers, 28 athletes (running and walking), and 22 athletes specializing in ski races were interviewed) and 82 trainers from cyclic sports (21 trainer-rowing teacher, 14 ski races, 17 sports voyages and 30 athletics (running and walking)). The average age of the polled athletes was 22 ± 0,47 years, the duration of being in sports - 9,48 ± 0,35 years, the average age of the interviewed trainers was 49,46 ± 1,46, the length of coaching work 22,16 ± 0,98.

Respondents were asked to evaluate each of the offered theoretical training facilities for its expediency at different stages of athlete training, according to the following criteria: "not effective", "low effective", "effective", "means".

The following research methods were used in the work: theoretical analysis is very effective is and generalization of literary sources, studying of documentary materials, analysis of personal data, methods of mathematical statistics.
Results

As a result of the definition of athletes’ opinions about the most effective means of theoretical training at various stages of many years of sports improvement, it was discovered that the study of collections of scientific articles, manuals and monographs, in order to obtain theoretical knowledge about the chosen sport, the majority of interviewed athletes consider it advisable from the stage of specialized basic training (SBT), in which the percentage of athletes who assessed the above means as «effective» reaches 45,21%, at the preparation stage to the highest achievements (PHA), this share is up to 54,11%, at the stage of maximum realization of individual capabilities (MRIO) – 47,95%, and at stages of preservation of the highest athletic skill and progressive reduction of achievements (MAR) – 39,04%. At the same time, it should be noted that at the stages of MRIO and MAR there was a significant increase (up to 29,45% and 31,51% respectively) of joint attitudes among athletes who mark these funds as «very effective» (Fig. 1.A).

The use of reference books and encyclopedias in the first three stages of preparation, by the majority of the responded athletes, is 35,65% at the stage of initial training (IT), at the stage of preliminary basic training (PBT) 54,11%, and at the stage of specialized basic training 43,84% (SBT) is defined as «low effective». At the same time, at the next stages of preparation, the majority of respondents, which reaches 36,99% at the PHA stage, 39,04% at the MRIO stage and 37,67% at the stages of the MAR, such means are «effective».

With the development of information technology, e-books and audio books, which are versions of printed books, are becoming increasingly popular. Electronic books can be read, and audiobooks—listen on computers or special devices. According to the respondents, the effectiveness of the use of electronic and audio books is gradually increasing with increasing athletic skills. Thus,

![Fig. 1. Application's priority of means of theoretical training at different stages of multi-year sport improvement (on the material of the survey of athletes, n = 146)](image)

IT – stage of initial training; PBT – stage of preliminary basic training; SBT – a stage of specialized basic training; PHA – stage of preparation for the highest achievements; MRIO – stage of maximum realization of individual opportunities; MAR – stages of maintaining the highest sporting skills and gradually reducing achievements.)
at the IT stage, the majority of athletes (34.93%) identified the aforementioned means as «low effective», at the stages of the PBT, SBT and PHA respectively 44.52%, 55.48% and 52.05% of sportsmen consider them «effective». And in the last three stages of training almost the same number of athletes, which, in terms of percentages, make up 36.99% and 59.04% at the MRIO stage and 35.62% and 36.99% at the MAR stage, assessed the use of such means «effective» and «very effective».

In contrast, obtaining theoretical information from printed periodicals, such as magazines and newspapers at all stages of multi-year sport improvement, has been identified as «low effective» by the majority of interviewees, whose numbers in the percentage ratio at the stage of the IT reaches 43.84%, at the stage of the PBT – 47.97%, at the stage of the SBT – 48.63%, at the stage of the PHA – 41.10%, at the stage of MRIO – 41.78%, at the stage of the MAR 40.41%.

The use of pedagogical testing not only to test the knowledge of athletes at different stages of preparation, but also as a means of theoretical training at the IT stage, the majority of athletes, which comprised 43.84%, were considered «low effective». At the same time, at the next stages of preparation, the athletes’ opinions were divided into almost identical percentages between recognizing the use of such a tool as «effective» and «low effective».

Thus, at the PBT stage, these shares make respectively 41.48% and 37.67%, at the SBT stage – 46.58% and 32.19%, at the stage of PHA – 41.78% and 32.19%, at the MRIO stage – 36.99% and 29.45%, at the stage of MAR – 28.08% and 34.93%. It should be noted that at the last stages of preparation (MAR) the percentage of common thoughts of athletes who evaluate pedagogical testing as a «very important» means of theoretical training reaches 21.92%. This can be explained by the ability of athletes who are involved in the final stages of preparing for the analysis of their own mistakes.

Significance of such means as posters, drawings, brochures in the transfer of theoretical knowledge to athletes at all stages of training by the majority of respondents, which at the stage of IT reached 41.78%, at the stage of the PBT – 47.95%, at the stage of the SBT – 50.07%, at the stage of PHA – 45.21%, at the stage of MRIO – 43.15%, at the stage of the MAR – 44.52%, were assessed as «low effective».

The following means of theoretical training, which were evaluated by athletes, were documentary and feature films. According to the majority of respondents, such means are «effective» at the stages of IT (38.36%), PBT (46.58%), SBT (47.26%), and PHA (41.10%). This result can be explained by the fact that sports films contain information that influences the formation of thoughts and attitudes (outlook) of young athletes, encourages them to go in to sports and to lead a healthy lifestyle. At the same time, with the growth of athletic skills, the effectiveness of the above mentioned means is reduced and at the stages of MRIO and MAR, the majority of interrogated athletes, which makes 40.41%, respectively, and 41.10% consider them as «low effective».

It was also predicted that the significance of animation as a means of theoretical training, the majority of polled athletes at the stages of IT (35.62%), PBT (44.52%), and SBT (52.05%) were determined at the level of «low effective» and at the stages of PHA (38.36%), MRIO (41.10%) and MAR (39.04%) – «not effective». Although, it should be noted that at the IT stage, significant percentage shares of athletes’ general opinions were recorded, which testify that 29.45% of respondents consider this tool «effective» and 24.66% – «very effective».

At the same time, at the subsequent stages of training, the number of respondents who insist on the effectiveness of the use of animation is significantly reduced. In our opinion, the use of cartoon films (cartoons) on sports subjects at the initial stage of training increases the interest of the younger generation of athletes and motivates them to entertain the sport, which is a prerequisite for successful training.

At all stages of the preparation, the majority of respondents viewing TV programs of sports and sports news, which at the stage of IT is 42.47%, at the PBT stage – 50.00%, at the SBT stage – 56.16%, at the stage of PHA – 40.41%, at the MRIO stage – 38.36%, and at the stage of MAR – 38.36% assessed as an «effective» means of theoretical training. At the same time, it should be noted that the percentage of joint attitudes among athletes who consider such an «low effective» means to be significant and has a tendency to increase with increased athletic analytics. Thus, at the IT stage, it reaches 25.34%, at the PBT stage – 23.29%, at the SBT stage – 19.18%, at the PHA stage – 31.51%, at the stage of the MRIO – 33.56%, and at the stage of MAR – 36.99%.

As seen from the figure 1.B, conducting practical events, including competitions and projects on sports topics, meetings with prominent athletes and coaches in the first stage of the process of multi-year improvement was recognized as «effective» by the majority of athletes, which in the percentage is at the stages of IT – 37.67%, PBT – 49, 32%, SBT – 43,15%, PHA – 39.73%. In the second stage of the process of multi-year improvement, the expediency of conducting practical measures to transfer athletes to theoretical knowledge of the chosen sport is reduced and at the stage of the MRIO marked parity in its evaluation. That is, the «low effective» and «effective» way this tool considers the same percentage of respondents, which is 34.25%. At the same time, in the majority of athletes, the majority of athletes, at 35.62%, are «low effective», and 34.93% are considered to be «effective» at the stages of MAR.

The use of games (puzzles, quests, quizzes) during the theoretical training sessions at the IT and PBT stages by most athletes, which is 35.56% and 34.25% respectively, is rated as «effective». At the same time, at the IT stage there is a situation where significant, almost equivalent groups of athletes consider the use of the above mentioned means «low effective» (25.34%) and «very effective» (27.40%). A similar situation is observed at the stage of the PBT. The groups of athletes who evaluate this tool as «low effective» and «effective» are parity and amount
to 25.34%. At the stage of the SBT, two significant groups of respondents’ general opinions were registered, among which 34.25% of the respondents prioritized the evaluation of games as «low effective» and 36.30% – as «effective» means of theoretical training. Beginning with PHA, we can state that a significant reduction in the need for the use of gaming means. Thus, 32.88% of respondents consider it «not effective», 32.19% – «low effective», 23.29% – «effective» and only 11.64% – «very effective». It is obvious that at the higher stages of preparation, the majority of respondents, who at the stage of MRIO is 41.10%, and in the stages of the MAR – 40.41%, indicate the «not effective» use of games to increase the theoretical preparedness of athletes.

Conducting open lectures, most athletes at the stages of IT (45.89%) and PBT (26.71%) define «low effective». At the next stages of preparation, a significant percentage of the athletes’ general opinions were formed, indicating their effectiveness. Thus, at the stage of SBT, the proportion of athletes who marked the holding of open lectures with athletes was 45.21% as an «effective» means of preparation, at the stage of PHA – 39.73%, at the stage of MRIO – 34.25%, and at the stage of MAR – 34.25%.

Collecting as a purposeful collection of objects displaying visual information about sports events by the majority of athletes, which at different stages is: IT – 49.32%, PBT – 47.95%, SBT – 55.48%, PHA – 58.9%, MRIO – 60.27%, MAR – 62.33% was rated as «not effective» means of theoretical training. It should be noted that the number of athletes who are so believed to increase with each subsequent stage of preparation.

Evaluating the expediency of using computer testing, in order to increase the theoretical preparedness of athletes, allowed to allocate two significant percentages of respondents’ general opinions at all stages of multi-year sport improvement. Thus, at the IT stage, the proportion of athletes who consider this tool «low effective» is 49.32% and «effective» – 24.66%, at the next stages of preparation these proportions reach 41.10% and 39.73% respectively (PBT), 37.67% and 41.78% (SBT), 32.88% and 33.56% (PHA), 35.62% and 30.82% (MRIO), 34.93% and 34.25% (MAR) respectively.

The use of computer games as a means of theoretical training in the opinion of most athletes is appropriate at the initial stages of preparation. Thus, 37.67% of respondents consider themselves at the stage of IT «effective», and 43.15% at the PBT stage. At the subsequent stages of preparation, there is a noticeable tendency to reduce the need for the use of such a remedy. It becomes noticeable already at the stage of the SBT, in which 39.04% of respondents indicated that the use of computer games to increase the theoretical fitness of athletes is «ineffective» and 30.82% «effective». In the second stage of the multi-year improvement process, the majority of respondents (PHA – 36.30%, MRIO – 40.41%, MAR – 41.10%) are not advised to use the above mentioned tool as «not effective». At the same time, the groups of athletes who consider the use of this medium in the stages of PHA, MRIO and MAR «low effective» make 28.77%, 28.77%, 31.51%, and «effective» – 29.45%, 26.03%, 22.60%, which confirms the variation in the responses of athletes.

Regarding educational and educational programs that are available on the World Wide Web, at all stages of many years of sports improvement, athletes’ opinions are divided into two significant proportions. Thus, the respondents who indicated that the given measure is «low effective» is 39.73% at the IT stage, 36.99% in the PBT, 40.41% in the SBT, 32.19% in the PHA, 32.88% in the MRIO, MAR – 33.56%, and the «effective» such tool is at the stage of the IT for 32.88%, the PBT – 36.30%, the SBT – 30.14%, the PHA – 37.67%, the MRIO – 35.62%, MAR – 34.25%.

The expediency of using the search services of the Internet, in order to obtain theoretical knowledge about the chosen sport, is estimated by most sportsmen as the «most effective» means at all stages of preparation. At the same time, it should be noted that with each subsequent stage of training, the number of athletes who evaluated the tool as «very effective» increases. Thus, at stages of IT and PBT it makes up 39.04%, at the SBT stage – 54.11%, PHA – 60.27%, MRIO – 65.75%, MAR – 64.38%.

Athletes’ thoughts on the use of multimedia at different stages of training were divided into two almost parity percentages. Thus, at the IT stage, the percentage of athletes who consider the use of multimedia on lessons of theoretical training «low effective» is 31.51%, and the percentage of athletes who mark such means as «effective» reaches 34.25%. At the PBT stage, these proportions are respectively 32.88% and 33.56% respectively. Starting with the SBT, the need for the use of this tool is increasing and 34.93% of respondents estimate it as «effective» and 30.14% as «very effective» means. At the next stages of preparation, these shares respectively make up: at the stage of PHA – 32.88% and 33.56%, at the stage of MRIO – 29.34% and 34.93%, and at the stage of MAR – 30.82% and 33.56%.

As a result of a survey of trainers on the effectiveness of the use of various theoretical training tools, it has been established that the use of collections of scientific articles, manuals and monographs, with the aim of obtaining theoretical knowledge about the chosen sport, considers that the majority of interviewed sports experts are not effective at the stages of initial training (IT) (70.73%) and preliminary basic training (PBT) (42.68%) and low effective at the stage of specialized basic training (SBT) (48.78%), which can be explained by low level of assimilation I have information on the above mentioned sources athletes, whose age corresponds stages IT – SBT (Fig. 2.A). In the further stages of preparation, the need for the application of these facilities increases. This is indicated by an increase in the percentage of respondents who consider them to be «effective» and «very effective». Thus, at the stage of preparation for the highest achievements (PHA), they reach, respectively, 42.68% and 23.17%, at the stage of maximum realization of individual opportunities (MRIO) – by 39.02% each, at the
Fig. 2. Application’s priority of means of theoretical training at various stages of many years of sport improvement (on the material of the survey, trainers n = 82)

IT – stage of initial training; PBT – stage of preliminary basic training; SBT – a stage of specialized basic training; PHA – stage of preparation for the highest achievements; MRIO – stage of maximum realization of individual opportunities; MAR – stages of maintaining the highest sporting skills and gradually reducing achievements.

stages of maintaining the highest sporting skills and the progressive reduction of achievements (MAR) – 41.46% and 39.02%.

The use of reference books and encyclopedias, in theoretical training of athletes, is considered by most trainers as «low effective» at all stages of the preparation of athletes, except for the first (IT), in which 59.76% of respondents insist on «not effective» their application. Starting from the stage of the BPP «little effective», the above means consider – 43.90%; at the stage of the SBP – 46.34%, at the stages of PHA and MRIO – by 41.46%, at the stages of MAR – 42.68% recovery. It should be noted that significant percentage of the general opinions of experts point to the «effectiveness» of the use of directories and encyclopedias at the stages of SPB (29.27%), PHA (40.24%), MRIO (29.27%), although at the last stages of preparation (MAR), the need for such funds is decreasing again (20.73). The importance of using electronic and audiobooks in the theoretical training of athletes in cyclic sports increases from stage to stage. So, if at the IT stage, the majority of respondents (40.24%) point out their application as «not effective», and at the stage of the PBT (52.44%) as «low effective», at the stages of SPB and PHA the majority of sports specialists (51.22% and 54.88% respectively) define them as «effective» means of preparation. The need to use electronic and audiobooks, while preparing for the second stage of the multi-year improvement process, is growing and at the stages of MRIO and MAR they are considered by «effective» means respectively 45.12% and 25.61% of respondents, and «very effective» - 50.00% and 62.20%.

Such a choice of specialists can be explained by the age-old peculiarities of perception and awareness of the information received, using all of the above-mentioned means.

According to most of the trainers, receiving theoretical information from periodical popular science literature, namely magazines and newspapers, is «ineffective» at the first stage of preparation (43.90%) and «low effective» at all other stages of preparation. That is, the per-
percentage of respondents who hold such an opinion at the PBT stage is 46.34%, at the SBT stage – 50.00%, at the PHA stage – 54.88%, at the MRIO stage – 59.76%, at the MAR stage – 57.32%.

Pedagogical testing as a means of theoretical training, the majority of respondents consider «effective» from the stage of the PBT. In percentage terms, the number of specialists who support this opinion at different stages of preparation is: 45.12% (PBT), 47.56% (SBT), 41.46% (PHA), 48.78% (MRIO), 39.02% (MAR).

The use of posters, drawings and brochures as a means of theoretical training was considered «effective» only at the first stage of preparation (50.00%); at the subsequent stages of preparation, their significance is reduced and at the stages of the PBT, SBT, and PHA the majority of specialists (45.12%, 53.66% and 39.02% respectively), they mark their «low effective», and during the preparation of the second stage of the process of multi-year improvement, they were considered «not effective», at the stage of the MRIO – 46.34%, and on 54.88% of the respondents were satisfied with the MAR stage.

According to most of the interviewed trainers, the view of documentary and feature films on sports topics is «effective» and «very effective» when preparing for the first stage of the multi-year improvement process. This is indicated by significant percentages of respondents’ general opinions, which at the stage of IT are respectively 47.56% and 23.17%, at the PBT stage – 40.24% and 31.71%, at the SBT stage – 42.68% and 31.71%, at the stage of PHA – 48.78% and 18.29%. In contrast, during the preparation of the second stage of the process of multi-year improvement, the significance of the above-mentioned means is reduced also at the stages of MRIO and MAR, the majority of respondents, which respectively makes 41.46% and 39.02% consider it «low effective».

At the same time, the review of cartoon films on sport as a means of transferring knowledge of the chosen sport found most of the trainers to be «effective» (47.56%) and «very effective» (25.61%) only at the initial stage of training (IT). At the subsequent stages of preparation, the need for animation in the theoretical training of athletes is reduced, and from the stage of the SBT and to the stages of MAR, the number of respondents who consider this tool «ineffective» increases from 40.24% to 65.85%. Such a low demand for animation, as a means of transferring theoretical knowledge to athletes, at most stages of preparation is common, both for sports professionals and for high-class athletes who took part in the survey.

The opinions of experts regarding the next theoretical preparation tool, which is the review of sports television programs and sports news, were divided into two significant percentages. Thus, at the stage of IT 45.12% of respondents consider the above indicated means «low effective», and 50.49% – «effective». At PBT, SBT, and PHA stages, the majority of respondents (31.22%, 56.10% and 50.00% respectively) define television as an «effective» means, while somewhat lower percentage of respondents (28.05%, 21.95% and 29.27%) note it as «low effective» means. At the stages of MRIO and MAR, the percentage of common opinion among specialists who consider such a means of transferring knowledge to be «low effective» is 41.46%, while «effective» 36.59% and 26.83% respectively.

As seen from the figure 2.B, conducting practical events, including competitions and projects on sports topics, meetings with prominent athletes and trainers in the first three stages of training, the majority of trainers, which at the stage of IT was 39.02%, PBT – 53.66%, SBT – 50.00%, are estimated as an «effective» means of theoretical training of athletes. At the same time, starting from the next stage of preparation, the significance of such a remedy is reduced and by the majority of respondents, who at the stage of PHA make up 48.78%, at the stage of MRIO – 43.90% and in the stage of MAR – 39.02%, it is noted as «low effective» means.

The use of games (puzzles, quests, quizzes), with the purpose of transferring theoretical knowledge to athletes, at the stages of the IT and the PBT, consider significant groups of respondents as «very effective» (respectively, 43.90% and 26.83%) and «effective» means (respectively 32.93% and 48.78% respectively). At the same time, according to most experts, the efficiency of information transmission by means of gaming at the stages of the SBT (46.34%) and the PHA (48.78%) is reduced to the assessment of «low effective», while in the stages of MRIO (45.12%) and MAR (54.88%) – to the rating «not effective».

According to trainers, holding open lectures with athletes at the stages of IT and PBT is inappropriate. This is indicated by a significant percentage of the general attitudes of athletes who insist on «not effective» (45.12% and 37.80%) and «low effective» (36.59% and 42.68%) of such a tool. At the next stages of training, the significance of the above means increases. Thus, at the stage of the SBT, two significant groups of athletes were formed that consider it «low effective» (42.68%) and «effective» (37.80%). At the same time, the majority of respondents in the PHA, MRIO and MAR stages, which respectively make up 43.90%, 50.00% and 41.46%, evaluate it as an «effective» means of preparation.

The ability to use collectibles as a means of theoretical training, sports experts rated skepticism. Thus, at the IT stage, the proportion of respondents who emphasize the «ineffectiveness» of such a tool is 46.34%, and – to the «low efficiency» 37.80%; at the PBT stage, these shares reach 43.90% and 45.12%, respectively; at the SBT stage – 51.22% and 40.24%; at the stage of PHA – 71.95% and 21.93%; MRIO – 76.83 and 17.02%; MAR – 80.49% and 12.20%.

In opinion of the majority of trainers (52.44%), the use of computer testing as a means of theoretical training of athletes, at the stage of IT it is «low effective». At the same time, at the next stages of preparation, the significance of this tool increases, and at the stages of PBT, SBT and PHA, the percentage of respondents who mark its «effective» reaches 41.46%, while in the stages of MRIO and MAR – 36.59% and 37.80% in accordance.

The use of computer games, in order to increase the
theoretical level of athletes’ training, at the IT stage, a significant number of trainers rated «very effective» (39,02%) and «effective» (29,27%). In the subsequent stages of preparation, the need for the use of this tool is gradually reduced. Thus, at the stages of PBT and SBT, the majority of respondents, which was 50,00% and 46,34% respectively, noted it as an «effective» means of preparation. At the stages of PHA, MRIO and MAR, the significance of this tool is reduced to an «low effective» (43,90%, 34,15% and 31,71% respectively) and «ineffective» (respectively 25,61%, 47,56% and 36,10%) means of theoretical training of athletes.

Computer educational and educational programs, the majority of sports experts rated as «effective» means of theoretical training at all stages of many years of sports improvement of athletes besides the first. Thus, at the PBT stage, the highest percentage of total attitudes among the athletes is 37,80%, at the SBT stage – 46,34%, during the PHA stage – 48,78%, at the stage of the MRIO – 47,56%, and at the stages of the MAR – 43,90%.

Internet search services (google.com, bing.com, yahoo.com, shukalka.com.ua, meta.ua, google.com.ua, etc.) allow athletes and their coaches to independently find the necessary information from the selected species sport. Therefore, the need for their use, according to trainers, is increasing with each subsequent stage of training. Thus, at the IT stage, the majority of respondents (42,68%) consider such a tool «low effective». At the same time, in the stages of the PBT and the SBT, its significance rises to an «effective» score, indicated by 46,34% and 48,78% of respondents respectively. Starting from the PHA stage and the MAR stages, the majority of respondents (65,85%, 64,63% and 64,63% respectively) point to Internet search services as a «very effective» tool for theoretical training of athletes.

The use of technical means of training (multimedia), aimed at transferring theoretical knowledge to athletes, is determined by the majority of trainers as «effective» and «very effective» at all stages of preparation. Thus, at the IT stage, such percentages of respondents’ general opinions reach 42,68% and 31,71% respectively; at the PBT stage – 54,88% and 25,61%; at the stage of the SBT – 46,34% and 36,59%; PHA – 35,73% and 47,56%; MRIO – 32,95% and 51,22%; MAR – 26,83% and 50,00%.

**Discussion**

Comparing the responses of high-class athletes and trainers, it can be noted that when assessing the theoretical preparation of their thoughts on the most effective and least informative means of theoretical training coincide. Both coaches and athletes, the most effective means of theoretical training, note the use of Internet search services and the latest technical means of training, and the least-demanded means – collectibles. There is also a general increase for both coaches and athletes, with each subsequent stage of preparation of athletes, the need for the use of collections of scientific articles, manuals, monographs, electronic and audio books, pedagogical testing and testing with the help of computer programs, lectures, Internet search services, as well as the reduction of the significance of the use of posters, drawings, brochures, animations, documentaries and feature films, games (including computer) and practical measures from the IT stage to the MAR stage.

At the same time, the informative nature of watching television shows, according to trainers and athletes, reaches its maximum level at the stages of the PBT and the SBT.

Different from the thoughts of coaches and athletes, it should be noted the need for the use of such means of theoretical training as directories and encyclopedias, as well as printed periodicals (magazines and newspapers). So, according to the interviewed athletes, the priority in the application of the above means increases with each subsequent stage of preparation. In contrast, the majority of interviewed trainers point out that while preparing for the second stage of the multi-year improvement process, it’s informativeness decreases. In addition, trainers attach greater importance to improving the theoretical fitness of athletes through the use of computer training and education programs than qualified athletes who took part in the survey.

**Conclusion**

As a result of the survey, it was found that, among qualified athletes and among trainers, most respondents insist on the importance of using the latest information technologies to increase the theoretical fitness of athletes at all stages of preparation.

The need to use such theoretical training tools as collections of scientific articles, manuals, monographs, electronic and audio books, lectures, pedagogical testing (including testing with computer programs), Internet search services increase with each subsequent stage training of athletes. By contrast, the significance of the use of posters, drawings, brochures, animations, documentaries and feature films, games (including computer) and practical measures is reduced with the increase of sportmanship of athletes.

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