

Improvement of the efficiency of procedure of expert estimation in oriental single combats

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Purpose: to develop the program addition that allows increasing the efficiency of procedure of expert estimation in oriental single combats.

Material & Methods: theoretical analysis and generalization of scientific and methodical literature, method of computer programming.

Results: the computer program addition is developed that allows increasing the efficiency of procedure of expert estimation in oriental single combats, the previous approbation of the program is carried out.

Conclusions: the received results during the approbation demonstrate the improvement of quality of estimation, the optimization of process of exposure and fixing of estimates by experts. The developed computer program can be recommended for practical use.

Keywords: expert, expert assessment, program computer addition, tablet personal computer, single combats.

Introduction

It is very often necessary for a coach to estimate the technique of performance by a sportsman of any element, method or action in sports practice, in different types of sport for the purpose of the determination of level of technical preparedness, the identification of execution errors and the search of ways of their elimination.

It is absolutely indisputable that it is necessary to rely on experience, knowledge and intuition of experts for the adoption of reasonable decisions.

Methods of expert assessments are the part of the extensive area of the theory of decision-making, and expert estimating – the procedure of receiving assessment of problem on the basis of opinion of experts for the purpose of the subsequent decision-making [6; 8].

The most significant criteria (characteristics, parameters) which range of change breaks into separate intervals to which certain estimates (points) are appropriated for receiving the objective assessment of technique of any method or action usually mark out [9].

The correct use of expert assessments allows obtaining the quite solid data where other ways of its receiving are excessively labor-consuming, expensive or even completely inapplicable. Thus, use of the method of expert assessments by a sports coach is a powerful mean of the solution of the applied tasks [11].

The use of computer technologies, namely mobile devices (laptop, netbook, tablet personal computer, smartphone), gains the increasing popularity in the training process every day. The computer and the special software allow a coach to obtain the urgent information on the studied object on the

basis of which opportunity is given to analyze and to correct quickly the process of training of a sportsman [1; 4].

The development of the special software product which will allow simplifying the process of obtaining information on the studied object is urgent for the experts working in the sphere of physical culture and sport [2].

The purpose of the research:

to develop the software application allowing increasing the efficiency of the procedure of expert estimation in oriental single combats.

Research problems:

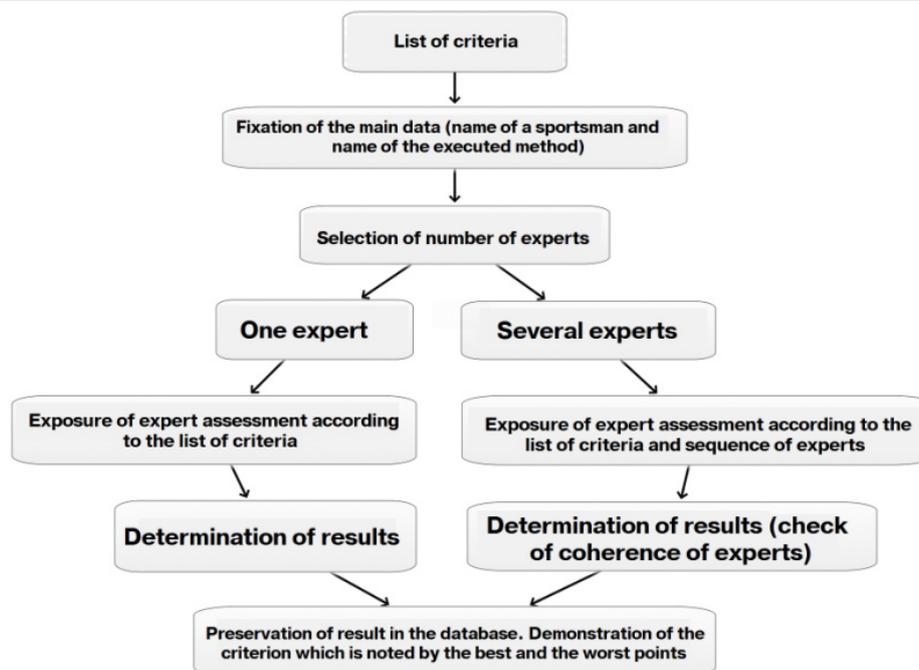
1. To define the main criteria for technique assessment in single combats.
2. To develop the algorithm of the procedure of expert estimation with the use of the computer equipment.
3. To develop and approve the software application for expert estimation in oriental single combats.

Material and Methods of the research

The following methods are used for the solution of the stated tasks: theoretical analysis and generalization of scientific and methodical literature, method of computer programming.

Results of the research and their discussion

The following provisions of rather expert estimation with the use of the computer equipment are selected on the basis of studying of the special literature, which is devoted to the perspective of control of technical preparedness in single combats [5; 9].:



Pic. 1. Algorithm of the procedure of expert assessment

- the most important criteria, such as accuracy, trajectory, speed, balance, the provision of the shock, blocking segment, breath etc. are marked out at the assessment of technique of performance of methods or actions [5; 7];
- the list and amount of the estimated criteria is defined by experts. The increase in amount of criteria, especially when it is necessary to estimate rather large number of sportsmen, complicates the procedure of expert assessment and increases probability of exposure of wrong estimates [4; 6];
- the mobile computer devices possess the certain technical characteristics which it is necessary to consider when using them in the training process. First of all they have to have reliability, speed, and usability, to be non-volatile [1; 2].

Considering the whole aforesaid, the algorithm of the procedure of expert estimation about the use of computer technologies is defined (pic. 1).

The program application “Expert’s assessment” was developed on the basis of the offered algorithm of the procedure of expert estimation. The application is calculated on the use on tablet personal computers under the management of the operating system iOS.

The application supports “Ukrainian”, “Russian” and “English”. It is offered to formulate the name of criterion for the assessment of technique and to add it to the list in the main application window (pic. 2). It is possible to add up to 10 criteria, but as it was told above, the increase in amount of criteria leads to the unjustified complication of the procedure of expert estimation.

It is offered to enter specification after the creation of the list of criteria, which are necessary for assessment: name of a sportsman and name of method or action.

The application gives opportunity of the selection of number of experts from 1 till 3.

If the mode of assessment of technique or action is selected by several experts, it is offered to estimate each criterion in turn: 1st expert, then the 2nd and 3rd.

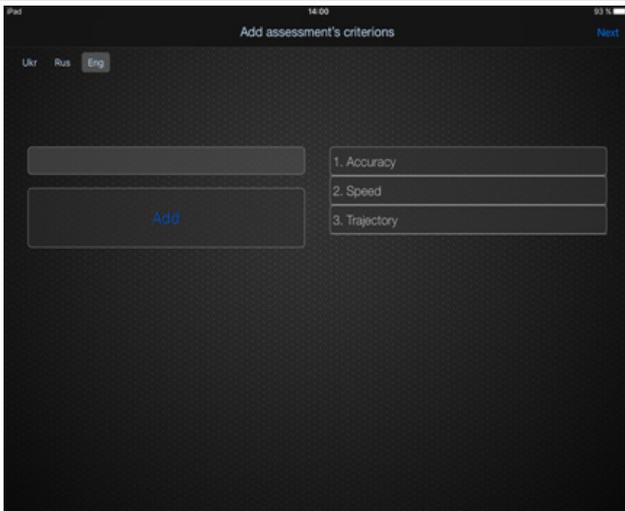
The estimated field of the application has borders: the upper bound assumes an excellent execution of technique or action, the lower – an unsatisfactory execution that is respectively equated to estimates of “5” and “2” (pic. 3). As the estimated field has no internal divisions, it is possible to give any mark in the whole range from 2 till 5 points within the 100-th that allows to achieve certain flexibility at the assessment of this or that criterion, and opportunity to use Swype (to carry out without tearing off, to slide) gives the chance to select the assessment corresponding to the opinion of the expert.

The program represents result on the completion of the procedure of expert estimation which includes:

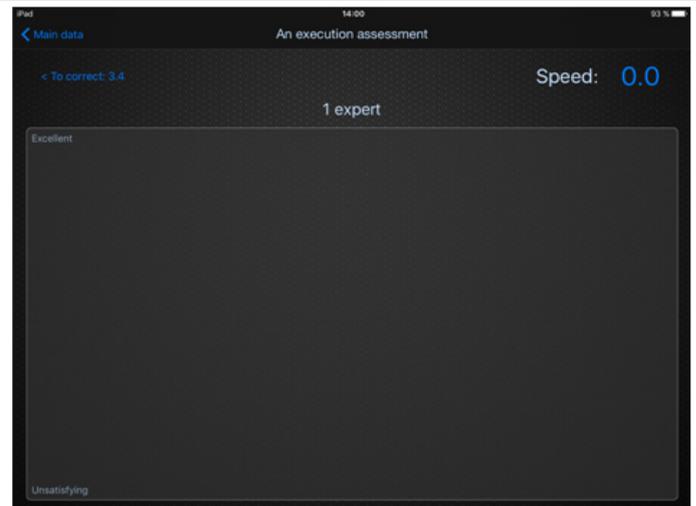
- estimates of experts in each of the criteria;
- average grades;
- the coefficient of concordance of Kendall, confirming or disproving the coherence of opinions of experts;
- the highest and the lowest points with the criteria, corresponding to them;
- the number of the experts who are taking part in the examination (pic. 4).

The program passes to the screen for input of specification after the preservation of result where it will be necessary to enter only the name of the following sportsman and it is possible to continue the procedure of expert estimation.

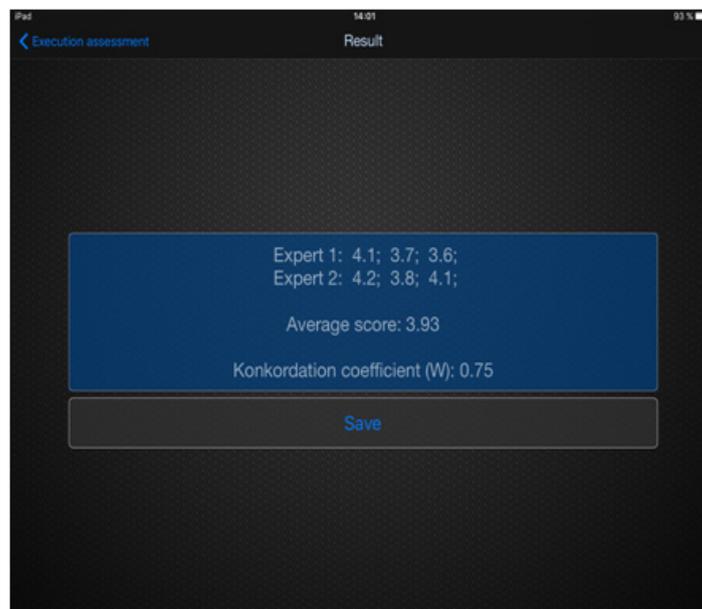
This program application was approved in children’s and youth sports schools and sports clubs of Kharkov at the assessment of the level of development of techniques by sportsmen-wrestlers. The results, which were received by means of the application “Expert’s assessment”, are also presented in the qualification works of students of the chair of single combats of KhSAPC.



Pic. 2. The main window of the program “Expert’s assessment”



Pic. 3. Application window “Assessment of execution”



Pic. 4. Application window “Result”

The version of this program for smartphones, working under the operating system iOS was created in the fact-finding purposes, which distinctive feature was the fact that criteria for evaluation of equipment (accuracy, speed, trajectory, balance, the provision of the shock, blocking segment) and their qualitative characteristic were already registered in it. So, for example: it was offered to be determined at the assessment of such criterion as “Accuracy”, how precisely the method is executed – “Precisely” (5 points), “With insignificant deviation” (4 points), “Level is not kept” (3 points), “Deviation through the attack” (2 points).

The use of this application version in the training process showed its efficiency when holding the procedure of expert estimation of the level of technique of sportsmen of the low qualification where the coach can act directly as the expert.

Conclusions

1. The analysis of special literature showed that the objectivity of expert assessment in many respects depends on the qualification of experts, right selection of the estimated parameters and their optimum quantity.
2. The algorithm of the procedure of expert estimation with the use of the tablet personal computer is developed.
3. The software application for expert estimation in oriental single combats is developed and approved.

Prospects of further researches. The further research will be directed to the improvement of software application from the point of view of its use in other sports, in which there is a need of receiving expert assessment.

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