

ATINER's Conference Paper Proceedings Series

FIT2018-0073

Athens, 1 August 2018

**Study of Weightlifters' Attitudes towards New Technologies'
use in Sports Training and Education**

Vessela Slavova, Nely Yankova & Valentin Panayotov

Athens Institute for Education and Research

8 Valaoritou Street, Kolonaki, 10683 Athens, Greece

ATINER's conference paper proceedings series are circulated to promote dialogue among academic scholars. All papers of this series have been blind reviewed and accepted for presentation at one of ATINER's annual conferences according to its acceptance policies (<http://www.atiner.gr/acceptance>).

© All rights reserved by authors.

ATINER's Conference Paper Proceedings Series

FIT2018-0073

Athens, 1 August 2018

ISSN: 2529-167X

Vessela Slavova, Assistant Professor, Bulgarian National Sports Academy,
Bulgaria

Nely Yankova, Associate Professor, Bulgarian National Sports Academy,
Bulgaria

Valentin Panayotov, Associate Professor, Bulgarian National Sports
Academy, Bulgaria

**Study of Weightlifters' Attitudes towards New Technologies'
use in Sports Training and Education**

ABSTRACT

Introduction: In recent years the dissemination of digital technologies among young people steadily increases.

Objective: Our research is aimed at young people who are part of the new digital generation and whose training should be supported by the use of new technologies to promote the sport and facilitate and improve techniques for practicing it.

Methods: The survey was conducted with 35 respondents, of which 15 were aged 10-20 years active weightlifters and 20 persons aged 20-45 years, coaches and students at the National Sports Academy.

Results: The analysis of the results showed a lack of learning experiences for youths in the use of new technologies in physical education and sports training. Young people have markedly positive attitude towards the use of new technologies in sports training, regardless of not having participated in such training before.

Conclusion: The main advantages of using new technologies in sports training are among others better illustrated basic techniques of the sport, easy access to video resources, attractiveness and innovation in sports training.

Keywords: new technologies, training, weightlifting.

Introduction

Internet and computer technologies' development have dramatically changed possibilities for communication, collaboration, socialization and exchange of ideas and information among young people. Social usage of global information space has allowed children and adults work together, it has inspired them to become active participants in creation and information sharing. Multiple and varied online resources have contributed to elaboration and usage of high level learning material in both theoretical and practical areas. Progress in the field of computer technologies has provoked lots of discussions and important changes in educational policies. Many new learning methods have been implemented in order to contribute acquiring of new competencies for youngsters and improvement of sports results.

Secondary school education system has been reached the challenge to assure adequate education for children and youth whose thinking, behavior, preferences, expectations and learning styles are totally different from those of their teachers and previous generation's pupils. Although the necessity of education, those youth who are part of the „net-generation“ study in a different way regarding their fellow students' way of learning, who are part of previous generation. Their learning style is visual and kinetic. Continuous usage of computer games, browsing internet and watching television have developed some speed, multi functionality of their senses, not linear visual thinking, and expectation of constant feedback from their friends' network, resources and access to various information sources (Smrikarov, Ivanova, 2011).

Information and communication technologies' development is related to the possibility to find new ways of overcoming youth unemployment, which will reach 12,8% in 2018. (International Labor organization's Report, 2012). At present the percentage of youth's unemployment is three times higher than that for adults and the number of these, who do not work, neither study, nor train has attained its historic level. Young people make up 40% of the working population in Africa and between 23 and 33% in developed countries (Pandit, Lebraud, 2012). Much efforts are being directed towards research and analysis related to the use of mobile devices for training and educational progress of the workforce in the world. The most eloquent study in this regard was published in the Landscape magazine in 2013, based on an assessment of over 80 projects involving the use of mobile devices - phones, tablets, etc. in student education (Raftree, 2013). The most important conclusion of this study based on the acquisition of students' knowledge and skills has been that blended learning has remained crucial teaching method when using mobile devices, especially in the case of weaker students. In general, mobile devices used to support lessons whose main purpose is to obtain basic skills, help significantly to master the learning material. Same conclusions were drawn from the discussion of participants in an international online conference held under the auspices of UNESCO in 2013 on the use of information and communication technologies in technical and specialized training of young people. All participants have agreed that information and communication technologies will not replace teachers

and coaches. A flexible blended learning approach where technology complements teacher's education offers opportunities for more interactive and active learning and increases students' motivation.

In order to realize goals and priorities of school education, it is necessary to realize the importance of creating not just a learning environment but a suitable and confident environment that will provoke interest and motivation for learning. Consequently it is necessary to consider both the optimization of the traditional methods used in the physical education and sports education, as well as the application of new learning methods and techniques in the educational process (Slavova, 2014). Our research is aimed at students from the NSA "Vassil Levski", who train different sports such as "Weightlifting", "Power lifting", "Fitness" and "Bodybuilding", and who are part of new digital generation. We suppose their sports training should be supported by the implementation of new technologies in order to facilitate and improve different techniques for practicing the sport.

The aim of the study is to investigate active weightlifters' attitudes aged 10 – 20 years who have trained weightlifting and to survey coaches' intentions related to implementation of new technologies in educational process in view to increase sports training' effectiveness and improvement of sports performances.

We have studied the problem through the accomplishment of some tasks:

1. Establish the attitudes of weightlifters, power lifters, fitness doers and bodybuilders to the use of new technologies in their sports training and during competition;
2. Explore their attitudes in the field of integration of new technologies in the training process;
3. Develop specialized tools and effective scientific research.

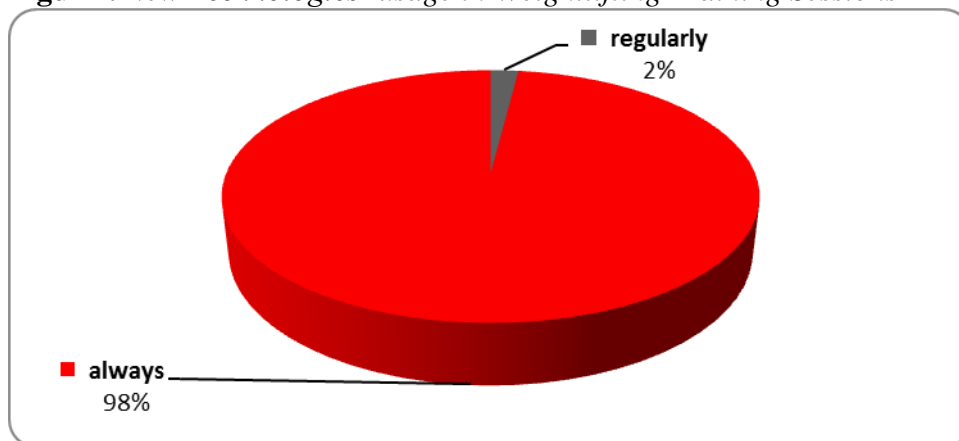
In order to realize the aim and tasks of the research it has been applied inquiry method and received data has been proceed by alternative analysis as statistical method. The survey was conducted with 35 respondents, of which 15 were aged 10-20 years active weightlifters and 20 persons aged 20-45 years, coaches and students at the National Sports Academy. The questionnaire is composed by 8 questions, 6 of them are closed type and 2 – open type.

Analisy of the Results and Discussion

The implementation of new technologies in weightlifting training and competitions has been realized by means of video recording. It has started very late in 2015 when video recording has been used at championships included in Bulgarian national sports calendar. There are 50 weightlifting clubs in Bulgaria where only a few coaches use video recording not only during their training sessions, but also at competitions, and the majority of other coaches has always used it for their competitors' performances.

Consequently 2% of the respondents share their experience that „regularly“ have used innovative methods or blended learning for trainings and sports preparation, and 98% of weightlifting coaches have „always“ used videos, and other in order to analyze and explain a definite set of techniques or some common mistakes made during the execution of their competitors' attempts (figure 1).

Figur 1. *New Technologies' usage in Weightlifting Training Sessions*



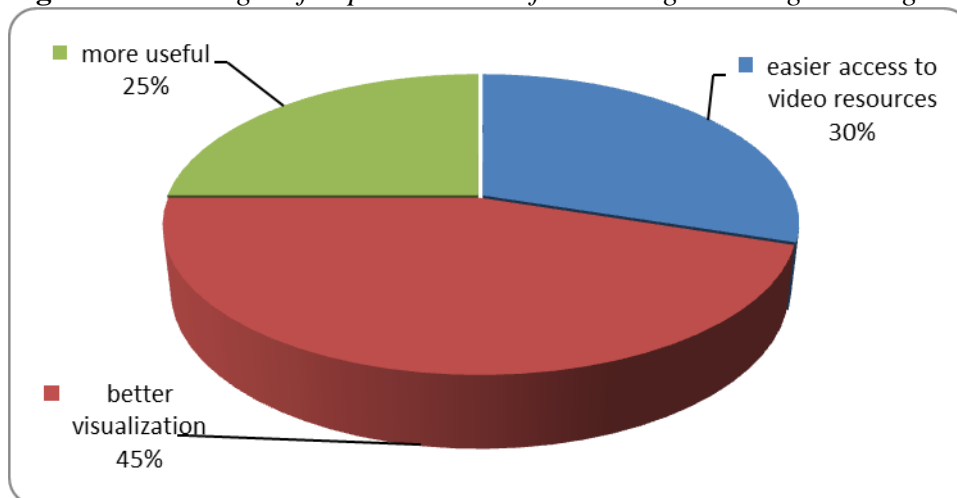
The implementation of new technologies through video recordings, different devices and multimedia presentations in weightlifting training and competitions is particularly important for further improvement of execution's techniques of competitive exercises. Weightlifting trainings could be much more useful and efficient when the educational process occurs in new technologies' setting. In explaining the first steps of the competitive exercises, coaches have the opportunity to show the slightest detail through the technology and to show every detail in a different way, and then to present it to both beginner and advanced competitors. Any more attractive performance of the sport would be of interest to beginners. For this purpose, sports coaches must acquire a special additional qualification to improve their computer skills. The inclusion of technology will contribute to a clearer idea of certain movements due to the fact that weightlifting is a very technical sport.

The analysis of the results of the survey with weightlifting contestants found that 80% of them "can not judge" whether the presentation of a particular technique through a multimedia presentation would be useful, have no opinion on the issue. Only 20% of respondents believe that using multimedia and other innovative methods is an asset and would be useful and effective.

The data collected in the survey has shown that so far very few of respondents have participated in a workout, where sports technique have been demonstrated and explained using new technologies. The lack of innovative methods and approaches leads to misunderstanding of the technique and failure to take account of potential mistakes by weightlifters. In the initial weightlifting training and introducing a beginner in the sport, the demonstration through several videos would be extremely useful and important for his future realization as a top competitor.

To the question: *What do you think are the main advantages of using new technologies in weightlifting?* the surveyed weightlifters have mentioned three main advantages, as shown in figure 2.

Figure 2. *Advantages of Implementation of Technologies during Training Process*



30% of respondents believe that new technologies give sportsmen “*easier access to video resources*”, 45% of respondents are aware of the possibility of “*better visualization*” of the technique of sport and a small percentage of the respondents - 25% - think that through technology, training would be “*more useful*” in illustrating technical mistakes, as well as determining the tactical variations in the weight added to the bar in the next attempts.

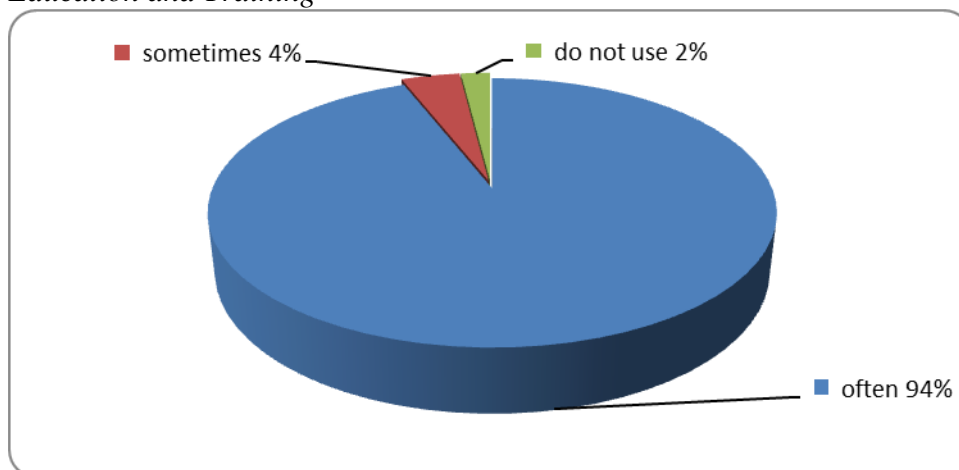
To the question: *How do you imagine a new technology training ?*, respondents say they would like the weightlifting exercise to be conducted by displaying different videos demonstrating the intricacies of sport and including additional technical devices such as laptop and multimedia, helping to explain more easily a particular technique and to prepare an individual way of performing the technique. Individual training in weightlifting is mandatory, requiring the study of individual phases and elements to achieve their automated performance in order to learn the right technique and achieve high sports results. We are still not aware of the need to integrate new technologies to be used as a useful and reliable tool in analyzing sports training.

Using a camcorder, a laptop, and a floodlight we can capture the weightlifters' attempts and identify and analyze their errors using captured video clips. With the development of state-of-the-art equipment and computer software for retarding the attempt, the smallest details of the performances, the trajectory of gravity movement and even the smallest deviations of the movements can be analyzed. New technologies are still a poorly exploited tool to analyze results from past competitions as well as to collect information in order to improve and enhance future sports achievements. The use of old methods of recording results in a notebook could be replaced by diagrams and graphs to demonstrate those exercises where the competitor has reached a higher score in his attempts in order to reach a certain number of successful attempts at competition.

The data obtained has showed that 94% of the respondents - weightlifting coaches “often” use new technologies in both sports training and competition and only 4% of them use “sometimes” videos for their competitors’ performances, and 2% of the respondents share that they “do not use” the technology as a means of training in their preparation classes (figure 3).

The results have showed that a large percentage of the interviewed trainers include new technologies in their classes.

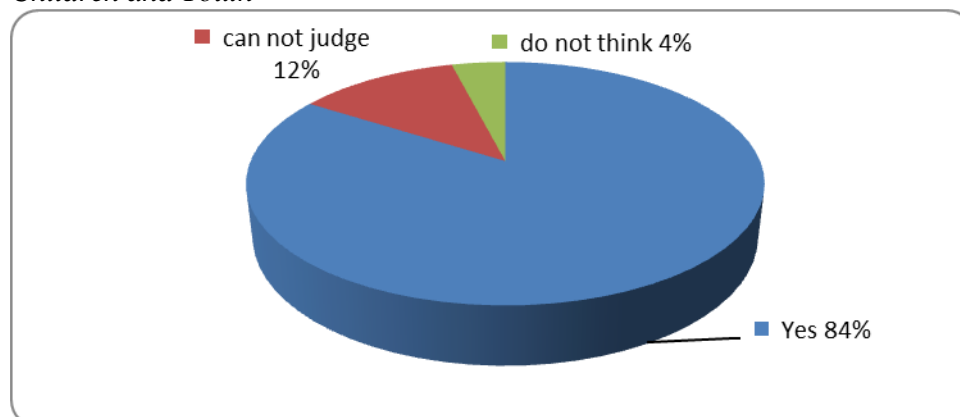
Figure 3. *Coaches’ Attitudes towards Implementation of New Technologies in Education and Training*



Data collected has showed that weightlifting coaches believe in using modern technology during training and competition is an advantage. Its implementation in lifelong learning for children and adolescents should be combined in the most effective way with old training methods and models. It is especially important that coaches can not demonstrate the proper performance of the technique.

For the question *Can the usage of new teaching methodology for children and adolescents supported by modern technologies and devices be effective?*, 84% of the interviewed trainers believe that when they work with teenagers it would be effective, 12% of them “can not judge”, whether the use of a different methodology would be useful for their coaching or pedagogical work. Very few people surveyed - 4%, “do not think” that they can use innovative methods and technologies in teaching children and youth such as computers, multimedia projectors and other devices (Figure 4).

Figure 4. *Use of New Methods of learning through New Technologies for Children and Youth*



It has been showed in figure 4 that the main advantages of working with children and young people is the convenient and easy access to information, video resources and others. Using video resources the coach could present better the main elements of the technique in training as an innovative method, which would contribute to the attractiveness of training. As mentioned, new technologies and innovative teaching techniques could facilitate the trainer and create a favorable and attractive learning environment that is an important factor for better work motivation and easy debugging during weightlifting sports' practice. 84% of respondents believe that the necessary equipment and facilities will contribute to a better demonstration of a particular exercise or technique. 12% of respondents can not judge the usefulness of using the appropriate equipment, multimedia, video cameras, and 4% do not think that using new technology in their work as coaches would increase the athletes' motivation to work, and thus could demonstrate and eliminate any technical error.

Conclusion

The conducted survey and the theoretical analysis of results can lead to the following main conclusions:

1. There is a lack of experience for coaches in the use of video recording both during training sessions and during competitions. Children and teenagers (80%) have no experience of using new technology in their training, recognizing that they have not been involved in similar training so far.
2. Implementation of new technologies in weightlifting training for children and adolescents has been found to be combined in the most effective way with old training methodologies and models, especially when coaches can not demonstrate the correct execution of the technique.
3. Every weightlifting trainer should monitor by technology the achievements of his/her competitors in definite weight category of this sport in order to improve their performance in international competitions.

4. The implementation of new technologies in sports pedagogical practice is useful and more effective than the traditional one and should be used to analyze results from past competitions as well as collect information to improve and enhance future sports achievements.

Literature

- Ilieva, V. New technologies in sports education for children and youth, Doctoral thesis, National Sports Academy, Sofia, 2016.
- Slavova, V. Information and communication technologies in foreign language teaching for students at National Sports Academy „V. Levski“, Doctoral thesis, Sofia, NSA, 2014.
- Smrikarov, A., A. Ivanova. Conception of implementation of information and communication technologies in secondary school education system in next 5 years, University of Ruse Press, 2011.
- International Labour Organization (ILO). Global Employment Trends for youth 2013 {Internet}. Geneva: ILO; 2013. Available from: http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_212423.pdf
- Pandit V, Lebraud JC, Seetharaman R. Transforming learning through mEducation. London: McKinsey & Company and GSMA, 2012. Available from: <http://mckinseysociety.com/transforming-learning-through-meducation/>