

*Opportunities, Issues and Best Practices in Online Education and Examination of University Students*

## ONLINE TRAINING OF UNIVERSITY STUDENTS AS TAEKWONDO REFEREES DURING A CORONAVIRUS PANDEMIC

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**Abstract.** COVID-19 caused the suspension of most sports events and the dismissal of all athletes, coaches, sports specialists, officials (referees and judges) and other persons involved in the field. In recent decades technological progress and digitalisation have undergone substantial development, thereby providing excellent opportunities for online training. In times of social distancing, hardware and software solutions have gained prominence as appropriate and necessary means of remote attendance for participants in educational events. Referees have become an integral part of modern sports as the officials upholding the proper application of the competition rules, fair play and the observance of the code of ethics during events. Considering the pandemic situation, which renders the conducting of attended events impossible, as well as the key role of sports officials, we set out to organize the training of Taekwondo officials online. The target group for the study consisted of students from the “Taekwondo Coach” specialty in the “Sports” faculty of the “Vassil Levski” National Sports Academy, given their specific knowledge and involvement in the sport. The implementation of the project showed that online training was a suitable method for the reinforcing, enriching and improving of the competencies of Taekwondo officials in Bulgaria during an ongoing pandemic. In the Taekwondo field, distance training proved to be a promising practice for the conducting of all theoretical and some practical classes for the officials in the country. The studies conducted allow us to conclude that during the COVID-19 pandemic it is possible to use modern technical means and methods successfully in order to involve athletes, coaches and officials with sports activities. The results of this project provoke us to re-assess the policies and methods applicable to the training of officials at the national and the international level.

*Keywords:* COVID-19; sports; technological progress; social distancing

### **Introduction**

In recent years mankind has encountered a number of fast-spreading viruses which have caused substantial damage at the social and the economic levels. The Zika fever, Ebola and coronaviruses are some of the key new diseases that modern science and medicine is dealing with. Currently the world is in the midst of the COVID-19

(Coronavirus disease 2019) pandemic that is caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2, often shortened to “coronavirus”). This is having a greater impact on human health and the global economy than any other health crisis in the last 100 years (Wackerhage H. et al., 2020). The disease has impacted most countries in the world, resulting in a pandemic. One of the primary anti-epidemic measures imposed by governments in the fight against the coronavirus has been social distancing, which changed the way people interact with each other in a manner that is very uncharacteristic of the 21<sup>st</sup> century. Another widely used preventive measure against the spreading of COVID-19 was the suspension of sports events, which was devastating for all people permanently engaged in the field.

All prevention measures against COVID-19 imposed at the international level, along with the recommendations of the World Health Organization, resulted in a number of restrictions and changes in people’s daily lives. The countries affected by the coronavirus implemented drastic measures to reduce the spreading of the infection and to protect the health of their population. To safeguard the health of athletes and others involved, most major sporting events at international, regional and national levels have been cancelled or postponed<sup>1)</sup>. The unprecedented and unpredictable spreading of the outbreak aggravated the situation in the world<sup>2)</sup> which lead to the rescheduling of the biggest sports forums – the 2020 Tokyo Olympic and Paralympic Games – which will be held in 2021. This decision has no analogue in history and represents the first ever postponement of the Games in peacetime. The IOC recently announced that another major event has been postponed – Dakar 2022 Youth Olympic Games due to operational and financial consequences of the global health crisis<sup>3)</sup>.

In these extraordinary times of social distancing caused by the pandemic, the sports system needs to act quickly and take concrete measures in order to survive and evolve. In the pandemic situation the main obstacles to maintaining an active and healthy lifestyle are the habit of visiting sports clubs and facilities, the need to use various forms of equipment for the development of motor skills, as well as the collective and attendance-based nature of sports training. The detachment of the sports personnel actively involved in the field results in the loss of certain qualities, which is expressed as a reduced working capacity, lack of motivation and laziness.

Taekwondo was also affected by the raging coronavirus pandemic. More than 35 international ranking tournaments and a huge number of national events scheduled for the period March – May of 2020 were cancelled<sup>4)</sup>. Along with the athletes, coaches and administrators, the suspension of the sports events also affected the refereeing officials. The Kyorugi discipline of Taekwondo is an Olympic and Paralympic sport, which requires compliance to specific rules. The efforts of the World Taekwondo Federation’s management team are aimed at preserving the place of the sport in the Games by taking measures to raise the attractiveness of matches, make match development easy to follow for potential stakeholders, and keep their

interest, as well as to attract more viewers, advertisers and fans. Referees and judges play an important role for the objectives of the World Taekwondo Federation, by upholding the observance of the competition rules and fair play, and by ensuring objective match management and referee team selection.

Keeping in mind the key role of the refereeing officials, the World Taekwondo Federation is paying particular attention on their training. Every year it conducts attended international referee seminars and refresher courses. They consist in theoretical and practical classes within 3 or 4 days, depending on the specific qualification level of the participating officials. Given the anti-epidemic measures in force, by the time of this study no referee seminars or refresher courses of the World Taekwondo Federation have been conducted in 2020. Furthermore, the cancellation and postponement of the Continental qualifications for the Tokyo Olympic Games has also resulted in the suspension of the selection of international referees for the Olympics.

The closures implemented as a measure to contain the COVID-19 pandemic, have led to an accelerated deployment of distance education solutions to ensure pedagogical continuity<sup>5</sup>). In these times of social isolation, there are still technical means enabling remote communication. The sports system needs to be proactive in utilizing these modern technologies in order to continue to function during the pandemic situation. The Internet and the fast-developing mobile technologies open new horizons in e-learning, helping students in all form of education to utilize their time and acquire knowledge in almost every setting (Slavchev, 2014). Digital technologies, modern means of communication and the nature of the training seminars for Taekwondo referees allow us to adapt to a new methodology for the training of referees and judges.

### **Objectives of the study**

This study is aimed at establishing the effects of the online training of Taekwondo referees conducted with university students during the coronavirus pandemic. We believe that the results will shape the development trends and will give us a clearer idea whether distance training is a good practice that could be implemented in situations involving physical distancing or even as a permanent supplementary or primary method for the training of Taekwondo referees.

The study set out to attain the following objectives:

1. Examining the achievements in the distance training of Taekwondo referees at the international level;
2. Planning and organizing an online training event for Taekwondo referees;
3. Conducting the online training event for Taekwondo referees;
4. Analyzing the conducted training;
5. Checking the competence of the participants in the study at the end of the online training event and analyzing the results;
6. Conducting a survey among the participants and analyzing the results.

## **Methods**

The methods used in the study were the following: quantitative methods – primary and secondary data analysis, conducting a survey; qualitative methods – observation, role-play, expert evaluation.

So far, the European Taekwondo Union has conducted three online training events for Taekwondo referees. They were in a discussion format and were not followed by any form of attestation of the knowledge acquired by participants. The online meetings organized by the continental Taekwondo union were aimed at:

- National referees from Europe and other continents (11 – 15.05.2020);
- International Referees certified by the World Taekwondo Federation (18 – 22.05.2020);
- International Para-Taekwondo Referees certified by the International Taekwondo Federation (08 – 12.06.2020).

The events conducted in May were monitored and analyzed for the purposes of optimizing the methods and approaches to the online training of Taekwondo referees and of adapting them to the conditions in Bulgaria. The launching of the initiative for the distance training of Taekwondo referees in the country was preceded by an online conference meeting between 9 Bulgarian officials with International Referee qualification. In addition to the informational purposes, the event was used to test the capabilities of the online conferencing platform, as well as to outline the structure of the program and select the material to incorporate in the training. Once the concept and the structure of the distance training were clarified, it was time to choose a target group to be studied. The participants were students from the Bachelor program of the “Vassil Levski” National Sports Academy, consisting of students from the “Taekwondo Coach” specialty in the “Sports” faculty. The subject matter of the training covered the Competition Rules and Interpretations of the World Taekwondo Federation for the Kyorugi discipline. The topics and the selection of participants for the study was based on the specific competencies of students in this sports discipline. The classes conducted with the focus group were part of the distance training in the specialty of the participants. The platform offered by Zoom Video Communications, Inc. was chosen for the study because it is available free of charge for up to 100 participants in a remote meeting of up to 40 minutes in duration.

The actual distance training was conducted during the period 26.05.2020 – 30.05.2020, for two training classes per day. The virtual classroom was opening 10 minutes earlier than the scheduled start of each class in order to ensure the proper technical setup for the active participation in the training. The curriculum was based on and aligned with the Competition Rules of the World Taekwondo Federation for the Kyorugi discipline. The workload consisted of 7 theoretical and 3 practical classes. The theoretical training covered the effective rules in the Kyorugi discipline – permitted and prohibited techniques and methods, sanctions, penalty types, names and job description of the officials participating in the Taekwondo events, electronic scoring systems (incl.

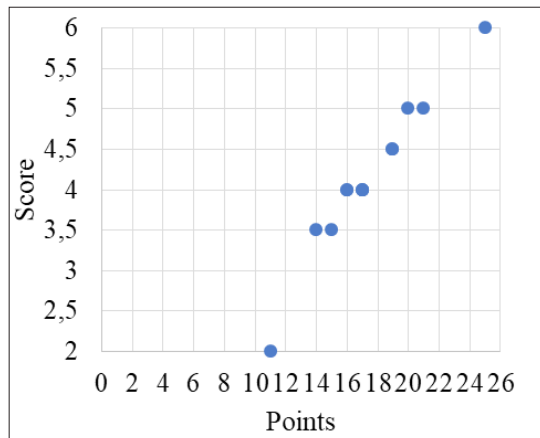
types and functions), etc. The practical classes were split into two blocks – video analysis of an actual competition match, and introduction to and practice of the gestures performed by the Center Referee. The video analysis involved the viewing of specific excerpts from competition matches containing pre-selected scenarios, without disclosing the actions of the refereeing officials. In the first stage of the module, participants in the study engaged in a group discussion of the situations and made decisions regarding the appropriate actions that should be taken. In the second stage of the practical classes, participants made independent decisions on a given scenario, and in the third one – they played the role of the Center Referee and were tasked with performing the action sequences suitable for the specific match being analyzed. The gestures performed by the Center Referee in a Taekwondo match may be numerous but at the same time they do not require a great amount of free space and that – given the relatively limited home conditions – was a really good fit for the online training format. The participants in the study were presented with all gestures of the Center Referee, and the capabilities of the platform used allowed for the parallel execution of what was shown, along with appropriate monitoring and adjustments, if necessary.

### Results and analysis

The study involved the participation of 13 students from the “Vassil Levski” National Sports Academy, enrolled in their I<sup>st</sup> to IV<sup>th</sup> year. In the first online session, participants had to complete a test aimed at determining their current level of competence regarding the Competition Rules of the World Taekwondo Federation in the Kyorugi discipline. The results were rated on a six-point scale, based on the accumulation of points for each correct answer given. Table 1 shows the test evaluation algorithm. The results and the scores are presented in Figure 1.

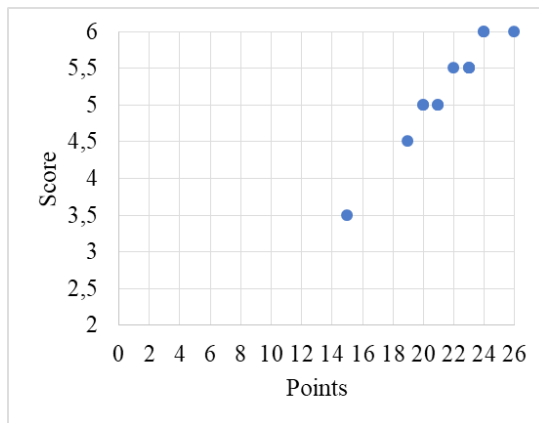
**Table 1.** Evaluation Algorithm

<b>Points</b>	<b>Score</b>
Under 13 pts.	Poor 2
13 pts.	Fair 3
14–15 pts.	Good 3.5
16–17 pts.	Good 4
18–19 pts.	Very Good 4.5
20–21 pts.	Very Good 5
22–23 pts.	Excellent 5.5
24–26 pts.	Excellent 6



**Figure 1.** Results from the initial test

The average result from the initial written test was “good”, with an average score of 4.15. The online session continued with theoretical classes on the basic rules. In the course of the training, the results of the written test were announced and analyzed, and the mistakes made were discussed. Any gaps in the understanding of basic rules and their interpretations were recorded for further action. The theoretical classes were in lecture format, conducted by a single presenter via themed multimedia presentations (audio and video), with students’ microphones muted. Each theoretical class ended with a Questions-and-Answers segment, giving participants the opportunity to ask questions on the topic and materials discussed. As part of the training the students were introduced to all gestures performed by the Center Referee during a match – illustrated through selected images and video excerpts from actual matches. In the practical parts of the training, students were asked to organize their surrounding environment in such a way as to allow 4 sq. m. of space for unobstructed movement. The video cameras of the communication devices used were positioned so as to enable a maximum shooting angle capturing the actions of the participants in the study. The practical classes consisted primarily of situational games with several stages of execution. The students assumed the role of the Center Referee and performed gestures and procedures based on pre-selected scenarios. Initially the group worked along with the presenter. In the second stage the students were making their decisions as a group, and the presenter was correcting them whenever necessary. In the third stage each participant was receiving individual scenarios and then their performance of the task was discussed by the presenter and the other members of the target group. The study was conducted in line with the standards of the World Taekwondo Federation, as adapted for the purposes of distance training. The group was given a second theoretical test in order to evaluate their progress. The questions were the same number as the ones in the initial test,

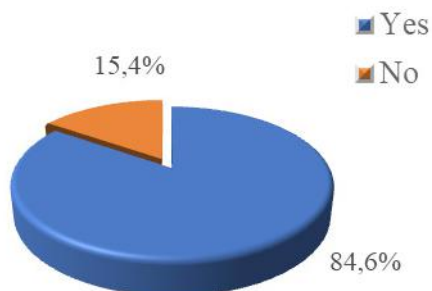


**Figure 2.** Results from the second test

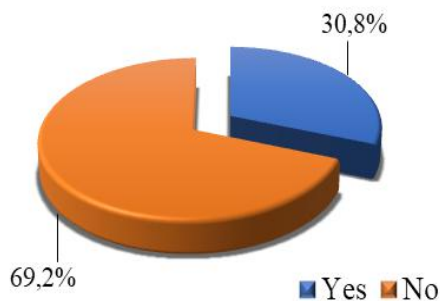
and the evaluation system remained the same (Table 1); the core concept of the questions was similar to that of the initial test. The format was chosen with a view to checking the acquisition of new knowledge and the understanding of the initial mistakes made. The results from the second test are presented in Figure 2.

The success of the online training was evidenced by the increase in the overall average score of the participating group to “very good” 5.23 (up from 4.15), as well as of the lowest score to “good” 3.5 (compared to “poor” 2 in the initial test). A practical exam was also conducted in order to test the acquisition and implementation of practical skills – each participant in the study received an individual assignment with a specific scenario. Students were tasked with performing all the appropriate gestures and procedures in line with the Competition Rules of the World Taekwondo Federation. Each presentation was conducted in the group classroom and then discussed and evaluated. Keeping in mind the complexity of the “situational game” the scores were quantitative rather than qualitative. The overall average score of the target group in the practical exam was “meeting the requirements”.

The organizers of the study created a survey in order to give participants a chance to express their opinion, impressions and recommendations with regard to the innovative approach to the training of Taekwondo officials. The survey was conducted right after the end of the training. Approximately 70% of participants were not holders of a referee qualification (Figure 3) but at the same time nearly 85% of the students had tried to perform officiating duties at their sports clubs (Figure 4).



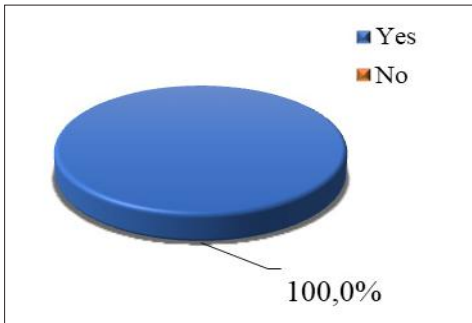
**Figure 3.** Holder of a Taekwondo referee qualification



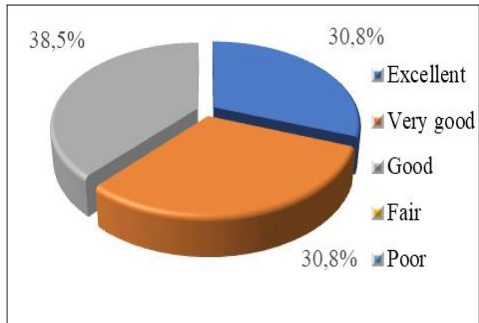
**Figure 4.** Has tried performing Taekwondo referee duties

All members of the study group have raised their level of competence as a result of the online training of Taekwondo referees (Figure 5), which represents one of the key indicators for the success of the distance learning event. The analysis of the

survey results allows us to conclude that the online training of Taekwondo referees left positive impressions on participants (Figure 6). 38.5% of them stated that the conducted training was “good”, 30.8% assessed the organization as “very good” and 30.8% considered it to be “excellent”. In addition, we believe that the format of the survey was accessible and easy to use.

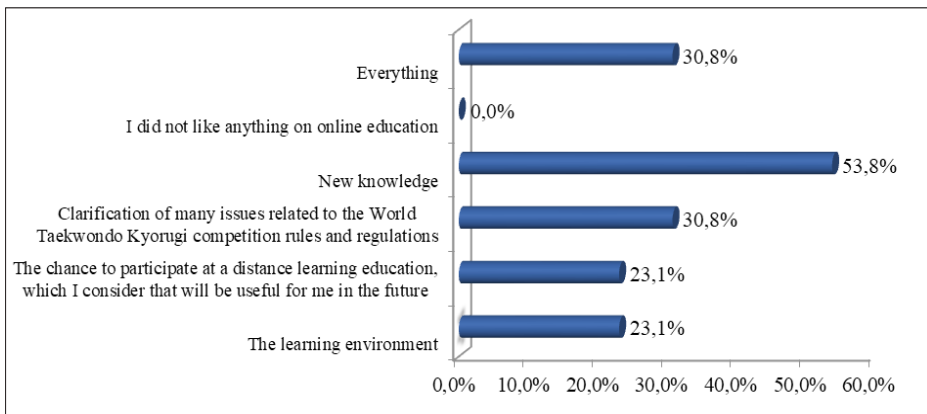


**Figure 5.** Increasing the knowledge of World Taekwondo Kyorugi competition rules and regulations



**Figure 6.** Overall evaluation of the online training

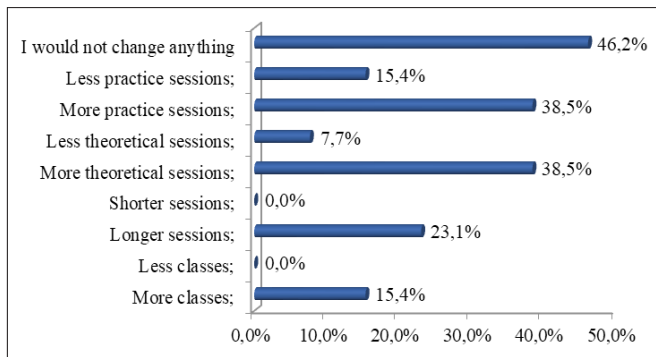
The newly acquired knowledge and the clarification of the situations discussed and of questions related to the Competition Rules of the World Taekwondo Federation for the Kyorugi discipline were rated the highest by the participants in the training (Figure 7). We attribute the results to the keen interest of the target group in the subject matter of the training and to their desire to learn and acquire new competencies.



**Figure 7.** What did you like the most about the online training?

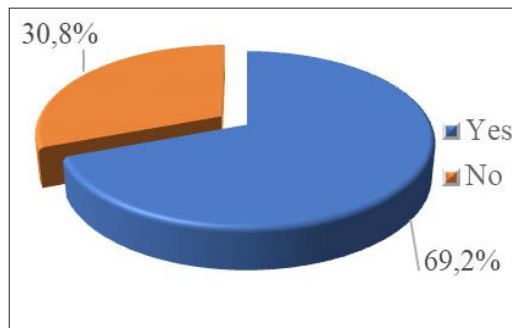


The participants in the study expressed the desire for more theoretical (38.5%) and practical (38.5%) classes, as well as for increasing the duration of the training classes (23.1%) – these were the changes they recommended for the format of the training (Figure 8). The overall positive attitude to the distance training event and the recommendations on expanding its scope demonstrated a keen interest in the Competition Rules of the World Taekwondo Federation for the Kyorugi discipline and in officiating as a whole.



**Figure 8.** What would you change in the online training, if you could choose?

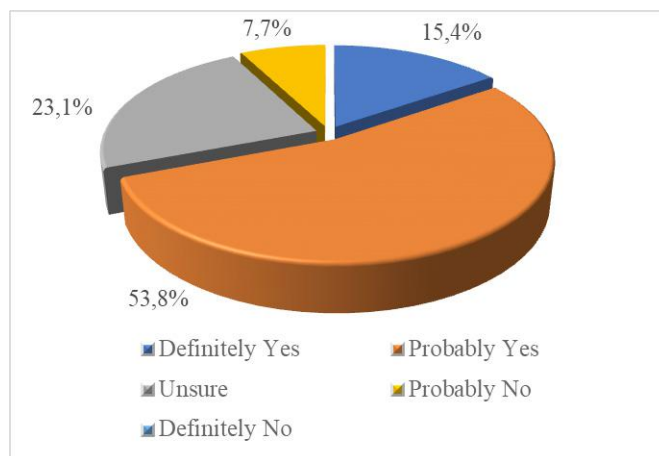
Nearly 70% of the participants in the study would take part in another distance training organized by the Federation (Figure 9). We attribute this desire to their satisfaction with the organization, structure and contents of the online training they experienced.



**Figure 9.** Participation in another online training event organized by the BTF

Based on the results of the survey, the interest and the desire for participation in online trainings, the Bulgarian Taekwondo Federation has become aware of the potential for further distance training events on various aspects of the sport.

The vast majority of the students that participated in the training expressed the opinion that the study of the rules of the various Taekwondo disciplines should be more widely covered in the curriculum of the “Taekwondo Coach” specialty at the “Vassil Levski” National Sports Academy (Figure 10).



**Figure 10.** Do you think that the study of the rules of the various Taekwondo disciplines should be more widely covered in the curriculum of the “Taekwondo Coach” specialty at the “Vassil Levski” National Sports Academy?

### Discussion

The online training of Taekwondo referees conducted with students during an ongoing coronavirus pandemic and the survey results allow us to conclude that the initiative was successful and properly structured, presented and assimilated by the students. The study group has increased their competencies with regard to the Competition Rules of the World Taekwondo Federation for the Kyorugi discipline. The distance format of the training of Taekwondo referees proved to be a good practice for involving participants in sports activities and providing them with new knowledge in times of physical distancing. The survey established that the online training format is suited mostly to theoretical classes, as well as to practical ones that do not require a great amount of free space. The distance referee training methodology could be used successfully not only in situations where attended classes outdoors or indoors are prohibited but could also be employed in the permanent teaching methodology of organizations. The use of appropriate technical means enables the organizing of distance trainings for Taekwondo athletes, coaches and officials, which would result in the overall re-assessment of the national and international policies on the conducting of trainings. With regard to the online format, the distance attestation of the participants’ knowledge requires

further attention in terms of optimizing and improving the examination procedures, in order to avoid any potential for abusive practices.

## NOTES

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