Student Points of View – Pedagogical, Psychological, Social and Technical Issues

THE IMPACT OF PANDEMIC INTO SPORT STATISTICS LEARNING – STUDENTS' OPINION

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Abstract. The worldwide pandemic had affected all aspects of human life but had greatly affected the education system. Education was also influenced and forced new ways and means of learning in all the stakeholders' viz. teacher, students and institutions.

The aim of the present study was to examine how COVID-19 pandemic and eLearning impact into sport statistics learning in master's program "High performance sport".

The research was done among 20 master's students, learners in a program "High performance sport" in both type of learning (full-time and part-time study), profiled as male and female (38.6 ± 9.2 years).

During the training, several ways of training and communication with students were used (the same for both forms of training) – Zoom (for online lectures in real time), Google classroom (for materials and communication), Virtual NSA (materials, projects and communication) and e-mail (projects and communication). It was found that 65% of students were actively involved in various forms of education, including online lectures.

Assessment of students is related to the possibility of consultation with the teacher (1.20±0.41). The general satisfaction of the trainees is also evident from the fact that their assessments on this issue are between 1- strongly positive and 2-positive. High marks are also given for answered student's question in a timely manner (1.40±0.68) and respect student's opinion and critical remarks (1.35±0.67).

The feedback and the possibility for normal and timely communication with the teacher, despite the limitations of the state of emergency, has a positive effect on the students.

The students evaluated positively the conducted distance learning in statistics and can concluded that the pandemic and the imposed changes in the way of teaching have had a positive impact on the assimilation of the material by the students.

Keywords: COVID-19; eLearning; sport statistics; master's degree; assessment

Introduction

The worldwide COVID-19 pandemic had affected all aspects of human life but had greatly affected the education system. Not the first time when education process

was surprisingly affected. During Ebola outbreak, schools were closures for nine months in West African nations and some percentage of students never returned back to schools leading to permanent loss of learning. During H1N1 flu U.S, 726 schools were closed for almost two weeks affecting 468,282 students (Hassan, Mirza, 2020).

But this was the first time that schools and universities in Europe were closed and the whole world switched to remote work and study. In this short span of time, situations had changed drastically and was like never before. The need for isolation had been the key factor for survival (Dubey, Pandey, 2020). Education was also influenced and forced new ways and means of learning in all the stakeholders' viz. teacher, students and institutions. The functioning of higher educational institutions had been affected. Due to the pandemic many of the institutions were unable to lead examination and the face to face teaching learning process had been affected (Dubey, Pandey, 2020). There were pros of classroom teaching that digital or online education would find hard to replace, such as collaborative learning, enhancement of critical thinking skills, keeping students stimulated and development of important personality (Dutta, 2020).

As found, every country, university or even specialty had chosen to use different type of learning applications for their eLearning during pandemic.

UNESCO and other well-known organizations recommend eLearning mode of education to overcome the adverse consequences of education disruptions. These tools include Microsoft teams, Team viewer, Trello, eFront, LoveMyskool, etc. (Humayun, 2020). Many Departments of Gauhati University, Assam had been using different online tools – Skype, YouTube, NPTEL, Google Classroom, Piazza, Zoom, EasyClass, etc. (Dutta, 2020). During lockdown, students were using popular social media tools like WhatsApp, Zoom, Google meet, Telegram, YouTube live, Facebook live etc. for online teaching learning system (Jena, 2020).

Web-based learning, eLearning or online learning was called when teaching professionals and students were virtually connected. Some authors thought that eLearning was quite simple to understand and implement and provided rapid growth and proved to be the best in all sectors, especially in education during lockdown (Radha et al., 2020).

From the other side face-to-face schooling was constructed as a specific threat from which the communities must be protected, and emergency eLearning was the security measured proposed to protect the community (Murphy, 2020).

Aim

The aim of the present study was to examine how COVID-19 pandemic and eLearning impact into sport statistics learning in master's program "High performance sport".

Methodology

The research was done among in the period from 18/03/2020 to 25/05/2020 and included 20 master's students, learners in a program "High performance sport" in both

type of learning (full-time and part-time study), profiled as male and female (38.6±9.2 years). Students had studied statistics as a compulsory module during the winter semester of the current academic year. During the summer semester, they had studied "Specific statistical methods in sports" as an elective module. For that reason, students could compare the two forms of study in the subject and express their opinion.

At the beginning of the research all participants were informed about the aim of the survey and their consent was obtained.

Methods

In order to fulfill the aim of the research we used online based survey. The questions were aimed at getting feedback from students after sport statistics learning and the impact by the pandemic.

The scale included 32 items. Three types of questions were used – alternative, with more than one answer and a five-point Likert Scale. The evaluation was given from 1 to 5 points, where 1 is strongly positive and 5 is strongly negative.

Statistical Analysis

The software package used to analyze the final data from the research was SPSS 25.0. The analyses made were the following: alternative analysis (to establish the relative shares of different responses in the questionnaires, as well as to assess the personal information – gender, type of learning etc.), descriptive statistics (mean and standard deviations) and comparative analysis (U - criteria of Mann Whitney).

Results

The distribution of students by form of education is presented in Figure 1. In the elective module there was a very strong presence of part-time students. This was also a determining factor in choosing the appropriate training method and application.

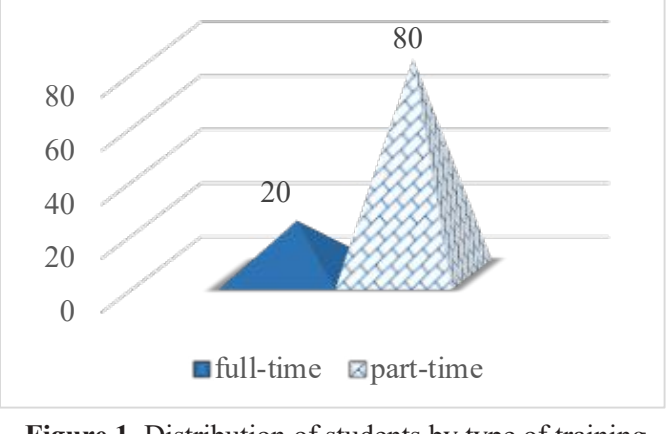

Figure 1. Distribution of students by type of training

When choosing the forms of communication with students, in addition to the factor was the choice of an application that could maximally recreate the connection that was obtained in real learning. At the same time, some other factors had to be taken into account: students in both forms of education have different daily schedules and different levels of computer literacy.

In the end, during the training, several ways of training and communication with students were used (the same for both forms of training) – Zoom (for online lectures in real time), Google classroom (for materials and communication), Virtual NSA (materials, projects and communication) and e-mail (projects and communication). It was found that 65% of students were actively involved in various forms of education, including online lectures (Figure 2).

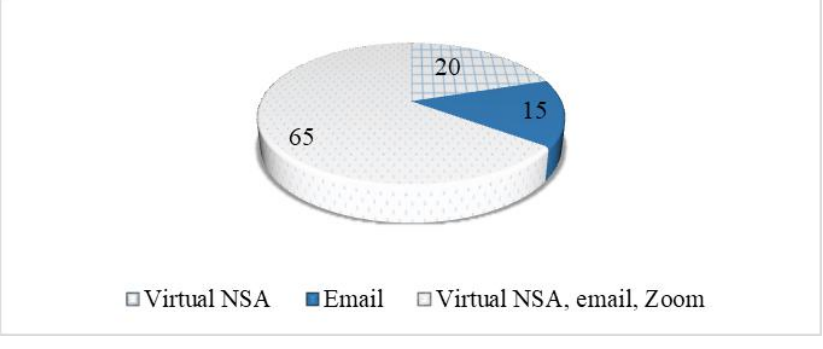

Figure 2. What was the online form of teaching during the state of emergency which you got involved?

It has been found that although all masters' students had a profile and access to the Virtual NSA platform, most of the students (50 %) did not have to use it before the emergency and 40 % were used it 1 – 2 times before.

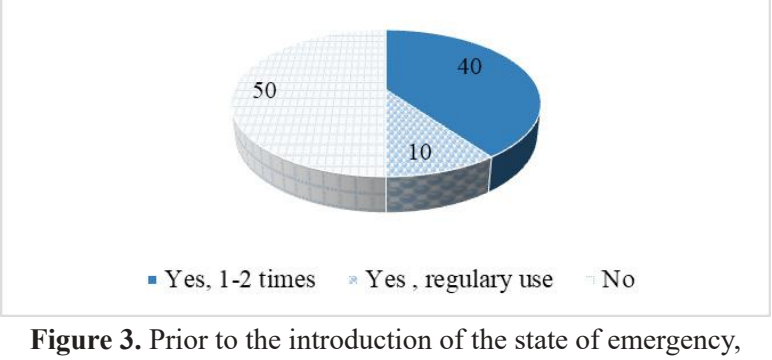

Figure 3. Prior to the introduction of the state of emergency, did you use an online distance learning platform in your training?

Can accept as positive the fact that 50% of the respondents are willing to continue with the distance form of education in combination with face-to-face training and after the end of the state of emergency. Among the reasons that students point out as positive are: the ability to determine the pace of work and study, a more flexible schedule for online lectures and timely communication with the teacher.

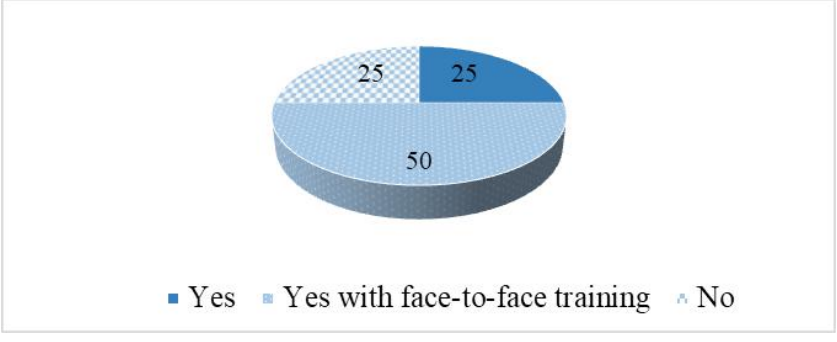

Figure 4. Would you prefer an online/distance learning even after the end of the state of emergency?

The obtained results from the research of the discussions and lectures are presented in Table 1. It is noteworthy that the average scores for all indicators are up to 2.65.

Table 1. Results from the variation analysis of the data of the discussions and lectures

Parameters	N	Min	Max	Mean ± SD	Variance
Age (years)	20	24	51	38.6 ± 9.2	2.83
Added new forms of communication, training and testing	20	1	4	1.7 ± 0.86	.747
Discussions	20	1	4	1.8 ± 0.89	.800
Encourage creativity	20	1	4	2.0 ± 0.85	.737
Encourage critical thinking	20	1	5	2.10 ± 1.16	1.358
Knowledge related directly to my specialty	20	1	5	2.30 ± 1.34	1.945
Materials are well organized and help to better understand	20	1	4	2.10 ± 1.16	1.358
The learning context in up to date	20	1	4	1.75 ± 0.96	.934
Theoretical training	20	1	5	2.20 ± 1.32	1.747
Practical training	20	1	5	2.65 ± 1.22	1.503

The data revealed that students evaluate positively the introduced new forms of communication, training and testing (1.7±0.86). Students evaluated the learning content as up to date (1.75±0.96) with well-organized learning materials (2.10 ± 1.16). According to the trainees, these facts helped them to better understand the material and cope with the set exam tasks, despite the state of emergency.

The ability to connect in real time and conduct online lectures provides an opportunity to ask questions in real time and hold discussions on key points of the study material. The positive assessment that students gave for the discussions (1.8±0.89) is very indicative of the learning process. The students appreciated the opportunity given to them to openly express their opinion and discuss the problems not only with the teacher, but also with their colleagues.

Table 2. Results from the variation analysis of the data of communications

Parameters	N	Min	Max	Mean ± SD	Variance
Major general satisfaction	20	1	5	2.35 ± 1.26	1.608
Clear instructions for the course and exams	20	1	5	1.85 ± 1.13	1.292
Provided necessary training materials	20	1	3	1.35 ± 0.67	.450
Opportunity for consultation with the teacher	20	1	2	1.20 ± 0.41	.168
Communication with the teacher contributed positively	20	1	4	1.85 ± 0.81	.661
Answered my questions in a timely manner	20	1	3	1.40 ± 0.68	.463
The assessment covers the studied material	20	1	5	2.10 ± 1.21	1.463
Respect for my opinion, critical remarks, etc.	20	1	3	1.35 ± 0.67	.450

The obtained results from the research of communication and satisfaction are presented in Table 2. It is noteworthy that the average scores for all indicators are up to 2.35.

The second group of questions, which are very interested in the assessment of students is related to the possibility of consultation with the teacher (1.20±0.41). The general satisfaction of the trainees is also evident from the fact that their assessments on this issue are between 1- strongly positive and 2-positive. High marks are also given for answered student's question in a timely manner (1.40±0.68) and respect student's opinion and critical remarks (1.35±0.67).

The feedback and the possibility for normal and timely communication with the teacher, despite the limitations of the state of emergency, has a positive effect on the students.

In general, we can summarize that there is a general satisfaction of students with the material studied and the way of teaching. However, it should be noted that „Specific statistical methods in sport" was a difficult subject and students had

repeatedly shared this fact. The correct practical application of statistical methods in a particular sport was also among the factors that sometimes worry future sports professionals.

Table 3. Comparative analysis between students' assessments by type of training

	New forms of communications	Discussions	Creativity	Critical thinking	Theoretical training	Practical training	Satisfaction
Mann-Whitney U	22.000	29.000	31.000	21.500	14.500	21.000	27.500
Wilcoxon W	158.000	165.000	167.000	157.500	24.500	31.000	37.500
Z	-1.035	-.315	-.101	-1.042	-1.730	-1.118	-.441
Asymp. Sig. (2-tailed)	.301	.753	.920	.297	.084	.264	.660

The comparative analysis of the results along the factor type of training among the indicators could assume that there were no statistically significant differences between the responses of full-time and part-time students in the master's program "High performance sport".

Discussion

Virtual education is the most preferred mode of education and the post COVID-19 education seemed to be an education with widely accepted online/virtual education which may perhaps be a parallel system of education (Jena, 2020).

Instead of telecommunications and technology companies scramble (i.e., Zoom, a virtual conferencing software changed from paid to free) to "support" the COVID-19 crisis, they ultimately are beholden to their bottom line (Wargo, 2020).

The Google Classroom would be an innovation in the educational system of the nation, nevertheless, but on the other hand some factors have made the adoption of Google Classroom unsuccessful for science education in Nigerian schools (Kola, Opeyemi, 2020).

The educators have think about some considerations in mind while teaching like taking continuous feedback from students and improved their teaching online, have

avoiding long duration lectures or text only learning material to retain attention of students while teaching online (Hassan, Mirza, 2020).

Some students had demonstrated a generally positive thought among about eLearning. Authors also found a great interest and increasing use of these eLearning programs for academic use. But they only like virtual learning like face to face learning or traditional learning (Radha et al., 2020).

Yet many courses used different platforms, and many of students' wanted to return to school as soon as possible because the efficiency of learning from home was quite low. Many also said that it was nearly impossible to focus at home, and that there was nothing better than face-to-face academic activities (Peters et al., 2020).

Pilot study conducted in some of the Bulgarian universities (including NSA) presented the perspective of bachelor's degree students on eLearning. Although popular, the Zoom platform and Google's virtual classroom platform are used rather as additional, as a total of less than 15% of NSA students and they have said that one of them was their main training platform – Virtual NSA (Getova et al., 2020).

NSA students affirmed that eLearning/distance learning is unhealthy because of the long standing in front of the computer. They associated it with the lack of physical activity, to which they are accustomed daily. Another negative side is the lack of a living contact, which limited all non-verbal communication and atmosphere - not only between teachers and students, but also between the students themselves. Third, but not last is that eLearning itself did not offer special opportunities for feedback - not only from students to teachers, but also back; both sides said it was difficult to get it because of the indirect way of communication (Getova et al., 2020).

There is a principle of sufficient support - Faculty and teaching assistants need to provide students with timely feedback, including online video tutoring and email guidance after class (Bao, 2020).

It turned out that academia and higher education already have all the tools necessary for the online lectures, teleconferencing, or digital open books exams, but are reluctant to unleash their full potential, perhaps waiting for some better days to come (Strielkowski, 2020).

The present situations which exist due to the widespread of COVID-19 pandemic have caused lot of problems for the learners and for the higher educational institutions. However, institutions should find some strategic initiative, both at individual as well as institutional level to combat the situation (Dubey, Pandey, 2020).

There is a relationship between corona virus disease (COVID-19) and educational activity and there is impact of COVID-19 on education (Upoalkpajor, Upoalkpajor, 2020).

Conclusion

Students from the master's program “High performance sport” (full-time and part-time) gave a positive assessment of their training in the elective module “Specific statistical methods in sports” during the emergency situation of the COVID-19 pandemic. The new forms of education and communication, which are chosen by the teachers (Zoom and Google classroom), as well as the combination of already known ones (Virtual platform of NSA and email) have a positive effect on the education of students in both forms of education.

There is a general satisfaction with the conducted training, however 50 % of the students have a desire to continue with the distance form of education after the end of the pandemic, but in combination with a present form.

The students also gave a positive assessment to the opportunity for consultation with the leading lecturer and his/her attitude and assistance.

The students evaluated positively the conducted distance learning in statistics and can concluded that the pandemic and the imposed changes in the way of teaching have had a positive impact on the assimilation of the material by the students.

The state of emergency in Bulgaria and the established full distance learning/ eLearning are a novelty that the education sector has coped with in various ways. Despite the positive evaluations in the present study by the students, other studies or opinions on eLearning in the subject "Specific statistical methods in sports" have not been found so far.

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