

Organizing virtual training- experience gained from COVID-19 pandemic

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Abstract

During the COVID-19 pandemic, the Trakia University gained enormous experience in how to organize and conduct virtual training. The university was closed like most universities all over the world and education was transmitted through the virtual learning environment using the possibilities of Moodle online platform, Google Meet, and BigBlueButton. This report presented the organization of student education during COVID-19. The special attention is paid on Google Meet and BigBlueButton applications, which were applied in distance learning for online video meetings. A comparison is made between the two applications with an emphasis on their specific use: the similarities of Google Meet and BigBlueButton are indicated; functionalities that are common to both applications but performed differently; the advantages of Google Meet in comparison to BigBlueButton for FTT - Yambol; the advantages of BigBlueButton. In connection with the way of conducting the training, the advantages and disadvantages of virtual learning vs classical are analysed. The results of the students' opinions need to be analysed with a view of further improvement and successfully applying the form of distance learning in FTT - Yambol.

Keywords: *online education, advantages, disadvantages, COVID-19 pandemic, Google Meet, and BigBlueButton*

Introduction

During COVID-19 quarantine, the Trakia University took appropriate actions followed the government recommendations, which complied with UNESCO IESALC endorsements for Higher Education Institutions encouraging students to continue learning, despite the temporary closure of educational institutions. The institution adopted remote communication system and was using virtual learning environment. Trakia University governance encouraged faculty members to use all conceivable distant delivering of lectures and training support, synchronous and asynchronous, using Google meet, Microsoft Teams, BigBlueButton, e-mails, social set of communication as messenger, Facebook and phone calls. One of the biggest challenges and new experience for faculty members were perhaps the examinations on the end of academic year.

Organization of the online learning process during COVID-19

During the period of required social isolation, the OECD published a framework to guide education responses to the COVID-19 pandemic. The guidance aims to support education leaders to accept the right choices and implement effective education responses. The plans and strategy for applying alternate modalities and mitigate the impact of a pandemic should be developed very quickly from the governance of education to prevent severe learning damages for students and protect the opportunity to study during this period (Reimers & Schleicher 2020). The main points to guide the development of an education strategy during the pandemic included:

- establish a task force or steering committee that will have the responsibility to develop and implement the education response;

- develop a schedule and means of frequent and regular communication among task force members;
- describe the principles which will guide the strategy;
- re-prioritize curriculum goals and define what should be learned during the period of social distancing;
- categorize the feasibility of pursuing options to recover learning time once the social distancing period is over;
- recognize means of education delivery that should include online learning or other secure variants;
- undoubtedly define roles and expectations for teachers to effectively steer and support students' learning in the new situation;
- boost communication and collaboration among students to foster mutual learning and wellbeing;
- define appropriate mechanisms of student assessment during the exigency;
- develop a communications plan and key messages to support the execution of the education strategy (Reimers & Schleicher 2020).

On 13 March 2020, Trakia University closed doors and quickly transformed all communications and learning processes to all possible distant forms. In the beginning, that situation created a shock in academic staff and students. Many professors and assistants did not know will be capable to cope with the requirements of the situation or not. The governance of the university gave immediate support as links to virtual connections, orders, definitions of how is adequate to continue the learning process, how should keep track of students and administration, and so on. Moreover, the support and instructions were given to people who haven't been familiar with the online platform to learn how to create and spread lectures, exercises, training quizzes, and how to build a stable virtual channel with auditory. It was just one-week need and distant online training settled successfully at Trakia University. Because of that pandemic event, the virtual learning environment in the university enlarges and enriches with new study digital information and the possibility to conduct lectures and exams virtually through video connections of virtual classrooms. Both academic staff and students became more familiar to work in a digital environment and gain new knowledge. Furthermore, students were strongly engaged in the new situation and were supportive. Students created virtual connection as closed group on Facebook for communication, used Messenger, e-mails, phone calls. The attendance to lectures rose due to banned movements and the recommendation «stay home safe life». The distance learning flourished, students showed high responsibility for making different homework and tasks, they were very precise coming on time at virtual meetings, and exam results were better at the end. Nevertheless, the real communication was missing for them; the main mentioned advantages were more free time and work from any place where WiFi has.

Application of Google Meet and BigBlueButton in distance learning through online video meetings

Upon the outbreak of the COVID-19 pandemic, Faculty of Technics and Technology (FTT) – Yambol at the Trakia University of Stara Zagora, quickly and in an organized manner took measures to conduct online distance learning. To this end, a series of online seminars with teachers were held. Moreover, written instructions were prepared and spread with all possible ways of conducting the classes. A special video was developed and distributed on how teachers can use Google Meet for their learning purposes, organize their students, and invite them to lectures with various Google applications from the G Suite for Education with www.trakia-uni.bg. In FTT - Yambol students have their lectures, available asynchronously through <http://edu.uni-sz.bg>

(TrEU. Some lectures are supported by additional videos and visualizations. During the pandemic, students were studied with synchronous meetings; they were able to ask questions; they can discuss and comment on the answers of the teacher and their colleagues.

In some cases, it is practiced to record the online lecture and make it available to students for re-viewing if necessary or to make it available offline to students who were unable to attend in person.

FTT focuses on the use of Google Meet and BigBlueButton because on the one hand Google Meet with its maximum capabilities is provided free of charge to the university through G Suite for Education. On the other hand, TrEU, based on Moodle, has a BigBlueButton plugin installed, which allows its use built into the Moodle environment.

f. Google Meet of G Suite

Google Hangouts is Google's longest-running messaging and video chat service, from June 2020 this service will only be offered to consumer accounts, anyone with an @gmail.com or @googlemail.com email address. Google Meet, previously named Google Hangouts Meet, is Google's premium video conferencing software, provided as part of G Suite. There is also a free version of Meet. Google Meet is similar to the video chat service provided in the consumer Hangouts but supports far more participants (Justin Pot 2020).

Due to the COVID-19 pandemic, Google provided enterprise-grade video conferencing available to everyone. Each user with a Google account was able to create an online meeting with up to 100 participants and meet for up to 60 minutes per meeting (up to 24 hours per meeting to Sept. 30, 2020). Businesses, schools, and other organizations took advantage of advanced features, including meetings with up to 250 internal or external participants and live streaming to up to 100,000 views within a domain (Javier Soltero, 2020). Hangouts support only up to 25 participants' video calls. Google users head to meet.google.com can start an appointment, or appointments can be booked in advance using Google Chat or Google Calendar. As of April 2020, G Suite had 6 million paying businesses, (Jordan Novet 2020) and 120 million G Suite for Education users (Zach Yeskel 2020). Google Meet offers collaboration anywhere, because documents, spreadsheets, and presentations could be co-edit, in real-time by using Docs, Slides, Sheets, Drive, Jamboard. The communication we can apply by your way with Gmail, Meets, and Chat. When we use the classroom of G Suite we can connect our classroom with email, chat, and video. For classroom management, were created classes, made assignments, give quizzes, and save time grading using Classroom, Assignment, and Forms. For organizing the tasks, the users can build to-do lists, create task reminders, and schedule meetings using Keep and Calendar. With administrative software Admin, the users can scale confidently - manage students, devices, and security so data stood safe and scaled as needed.

g. BigBlueButton

BigBlueButton is an open-source video conferencing system for online learning. This project started in 2007 and reached a high level of maturity, as the code has been completely rewritten. BigBlueButton supported advanced virtual board capabilities and allows the maintenance of multiple audiences and the exchange of video with the ability to present.

Students participating in the virtual room can "raise their hands", use emoticons, participate in surveys. Many other features make the app attractive for a virtual classroom. Integration with Moodle is one of the very valuable features in addition to online education.

From a business perspective, using a video conferencing tool, BigBlueButton allows improving internal operations, mixed education, customer and provider support services by making all communications flexible and accelerated.

h. Similarities on Google Meet and BigBlueButton

Google Meet and BigBlueButton have quite common features that make them useful for online web conferencing:

- They work on Operating Systems Windows, Mac, and Linux;
- Audio and Video support;
- Desktop Sharing;
- Cloud-based;
- Host Meeting from Mobile.

This makes them especially useful and preferred by schools and businesses during COVID-19.

i. Functionalities that are common to both applications but are implemented differently:

- *Recording capabilities* - Google meet provides the ability to record a video lecture without the user to fear about a server outage or other technical problems that would disrupt it. Therefore, Google meet works independently of the server on which the e-learning platform of TrEU is uploaded. When BigBlueButton is installed on a university platform as in Trakia University, then problems may arise and it may work at some point - neither for communication nor for recording the online lecture. If synchronous sessions are used and recorded they should be downloadable so students with slower Internet speed or no reliable method for connection to be able to download them where they can find good connections and watch these videos later.

- *Breakdown rooms* - the moderator in BigBlueButton can select and redirect users to a new room to divide into smaller discussion groups. The maximum number of rooms is 8. This can also be done in Google Meet and Jamboard of Google app by inviting some of the participants to a new virtual room and mute the microphone to them.

- *Cloud Storage* - unlimited storage for Google Meet of G Suite.

- *BigBlueButton* - features for the enterprise-level plan include up to 200 meeting participants and unlimited cloud storage.

j. The advantages of Google Meet compared to BigBlueButton for FTT - Yambol:

Comparing Google meet and BigBlueButton we find that most of the academic staff of FTT have used Google meet. The reasons for this can be summarized as follows:

- Students can be invited for a video conference call via Chat or Google Calendar. This allows pre-booking a room with an ID or code. Thus, it is not necessary to send an invitation to the participants at the last moment, but to plan well before the beginning of the session;

- All participants have equal rights to share the screen or application window they want to present to their colleagues. Everyone can do this simultaneously and each participant can pin some of the others they want to watch. Users do not need to have rights from a Moderator, as with BigBlueButton;

- Each participant in the virtual meeting can control the look and layout of their screen differently from the others;

- The initiator of the virtual meeting can control the microphones only to turn them off, but cannot turn them on again - only the participant in the meeting does this;

- Video conferencing can run in parallel with the secure Safe Exam and LockDown Browser, which are used to conduct online exams.

k. The advantages of BigBlueButton over Google Meet:

The advantages of using the BigBlueButton are also important, which is why they are preferred in some cases to Google Meet:

- Third Party Integration like Canvas, Drupal, Moodle, WordPress etc. (<https://bigbluebutton.org/integrations/2020>);

- Whiteboard and Multi-user Whiteboard - BigBlueButton supports many users to use Whiteboard at the same time. The management and the deletion are in the functions of the moderator that is performed for all participants. The user can only delete his notes. The recording format allows all users' notes to be recorded and played back;

- Shared Notes and Text Formatting - to make learning more effective, it is possible to keep "shared notes" during the online session, which are available to all participants. The shared windows allow users to apply formatting changes (font, font size, and style) to any of the text in the shared notes;

- Download Shared Notes - users can download the shared notes as plain text or HTML, which will be available to them later;

- Enable Presentation Download - the presenter can allow users to download the presentation;

- Promote Viewer to Moderator - moderators may additionally grant moderation rights to other participants in the video conference call.

Conclusions

The conclusion is that both applications, Google Meet and BigBlueButton are equally good for organizing virtual conferencing in FTT - Yambol and were effectively used. They were implemented along with TrEU (<http://edu.uni-sz.bg>), based on Moodle, with all its resources and activities for students. Google Meet and BigBlueButton were used for video surveillance when online tests were conducted; the semester and state exams were performed in Moodle with secure browsers - Safe Exam Browser and LockDown Browser. A survey and interviews for performed online classes were conducted. The results of the students' opinions need to be analyzed with a view of organization improvement and better conducting the form of distance virtual learning in FTT - Yambol.

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