також їх когнітивні переваги визначають специфіку вибору, застосування навчальних методів і прийомів.

FREE WEB CONFERENCING TOOLS COMPARISON FOR E-LEARNING IN THE HIGHER EDUCATION INSTITUTIONS

Karpenko O. O., Ph.D., Associate Professor,
M. Ye. Zhukovskyi National Aerospace University
"Kharkiv Aviation Institute"

The global learning environment requires using modern technologies for training professionals for all fields of social communications in the world. Contemporary transformations of higher education in Ukraine geared toward European standards of teaching need to be adapted to using modern technologies in the learning process. It is especially important for organizing e-learning for students as virtual classes are part of everyday life, especially during the present coronavirus quarantine time. Special applications can be used for holding web conferences, webinars, and other online transmissions. In this context, the problem of choosing the proper web conference tool for e-learning is of great importance.

Web conferencing is usually defined as online meetings with different numbers of participants who can discuss and solve problems together online. Such conferences can be organized via Internet browsers by using special services.

A typical web conference includes the following components:
− slideshow presentations;
− live video with the help of the web;
− digital video camera or multi-media files;
− audio or video communication via the use of headphones and speakers;
− web tours, meeting recording;
− whiteboard with a possibility of highlighting or marking items;
− text chat, screen sharing, etc.

There are a lot of different web conferencing tools including popular messengers like Viber, Telegram, WhatsApp, Skype, etc., but it is important to know what tool to choose for free use in the learning process as in free versions of web conferencing tools the amount of participants is limited. That is why some free web conferencing tools will be compared to make the right choice for realizing the goal of the learning process.

After analyzing some programs for organizing web conferences it is possible to state that among the proper tools for free web conferencing with a group of participants in higher education institutions are Zoom (up to 100 participants), Jitsi Meet (up to 75 participants), Skype (up to 25 participants),

Myownconference (up to 20 participants). All the tools can be used in phones, laptops or computers of participants without their installation besides Skype which requires it.

Jitsi is a free tool for organizing audio, video and chat conferencing with unlimited numbers of participants and instant messaging. It is also possible to use screen sharing, group chatting, recording communication (recordings can be saved on local devices), and to show presentations that are important for virtual classes, and even to edit documents altogether. It is characterized by a high-quality connection when communicating with 35 participants nevertheless there can be more of them. But there is no option of sharing files. It is the most reliable tool for saving confidential information thanks to the technology of its encrypting that can be installed on phones, laptops or computers.

Zoom is a similar tool with a possibility of joining up to 100 participants, but the time of conferences in a free version of this application is limited (40 minutes, nevertheless when signing in there is only 30 minutes to choose for a free version in options) and there is not file storage in its free version, it is only possible to keep recordings of communication on a local device. The pros of Zoom are possibilities of group chatting, dual-screen supporting, live broadcasting to YouTube or other platforms, etc. Among the cons of its tool are a non-sufficient level of saving confidential information, the absence of the function of showing presentations, and the necessity of creating several conferences of 30 minutes each. But for the coronavirus quarantine time, there is no time limitation in web conferencing.

Skype is another tool with 25 participants in a conference, who can share screens, file storage, and live streaming meetings, as well as dial into conference calls, and make, receive, transfer calls via computers or mobile devices. But it is not any possibility to show presentations for participants.

Myownconference offers free web conferencing for 20 participants including 3 broadcast, storage of 500 Mb and recording quality in SD, HD. It is also possible to use interactive webinar tools like screen, video and audio sharing, chat, whiteboard, tests, polls, call to action, etc. It is available for the most popular web browsers (Chrome, Opera, Firefox, Yandex, etc.).

There are also other web conferencing tools such as Cisco Webex Meetings (up to 100 participants), Proficonf, Google Hangouts, ooVoo, etc., but they can be chosen for either small groups of students in their free versions (Proficonf, Google Hangouts, ooVoo) or for teachers who has a strong command of English as there is no option of changing a language to Ukrainian or Russian (Cisco Webex Meetings). Anyway, everybody can use the 30-day free trial version of Cisco Webex Meetings (up to 100 participants), for instance. And, a free version of Google Hangouts is limited to 10 participants in web conferencing with possibilities of sharing screen and

ideas but for the present coronavirus quarantine time (to 1st July) there are no limitations, all premium functions are free. It means that it is possible to make web conferences with 250 participants and 100 000 viewers, as well as to record and keep video meetings on Google Disk as all users should need Google accounts.

Thus, according to the analysis it can be stated, that optimal tools for web conferencing are Zoom and Jitsi, but each higher education institution, as well as each teacher, should study carefully all pros and cons of a concrete tool for organizing web conferences depending on the numbers of students, plans and aims of classes, etc.