Developing Future Ship Engineers' Communicative Competence Using Virtual Classrooms

Olena Kononova[1] and Alona Yurzhenko[2]

[1]Maritime Professional College of Kherson State Maritime Academy, Ukraine

[2]Kherson State Maritime Academy, Ukraine

Abstract

The utilizing of virtual rooms is one of the options for conducting distance learning foreign languages during a pandemic. The formation of communicative competence of future ship engineers is impossible without the fact that they should speak English during the lesson (it means for about 80% of the time from the whole lesson). In organizing of such distance classes, the BigBlueButton service allows us not only to conduct a video conference, but also: enrich the learning experience with screen-sharing (show a screen or video from an external source, upload a document of any format (including presentation) and virtual whiteboard features: keep general notes, write / draw / sketch on a whiteboard, record videoconf. Also virtual classroom allows for instant feedback, direct teacher-student interaction, and engaging activities to increase motivation and active participation. And one more plus the period of time is unlimited. Students can connect to virtual classroom platforms from any device that can connect to the Internet and they should have an official registered account in the Moodle. Conference is automatically displayed in the schedule. The research also describes other advantages of using BigBlueButton, which is integrated into the LMS Moodle of the establishment. We came to the conclusion that the use of this has a positive effect on the formation of the computer competence of future ship engineers. In our next researches, it is planned to analyze the influence of self-study platforms on the formation of the competence of future seafarers.

Keywords: ship engineers, communicative competence, Moodle, BigBlueButton, virtual classroom

Introduction

The development of computer network Internet has opened new opportunities in upgrading world educational system. By reason of, the most part of the time modern people spend communicating online. Taking into account of today`s reality it would be a little bit in hindsight to ignore this fact when deciding on the issue of studying. Online education becomes more and more essential and relevant direction when choosing the forms of studying nowadays. It is reflected both in the technical equipment of educational establishments, their access to world information resources, and in the use of new types, methods and forms of education focused on the active cognitive activity of students. Thanks to the means of new information and communication technologies, such form of the lesson as a virtual one has appeared.

The positive side in traditional system of studying is visual and emotional contact of the teacher with the student through which the material is learned much easier and more efficiently. Today in the Internet we can find different forms of education in which such communications are not expected between the participants (because of videos, courses, trainings with instructors). Modern conditions allow us to use and combine traditional forms with new technologies in distance learning.

The objective of our study is to analyze the use of distance classes using BigBlueButton service in order to formate communicative competence of future ship engineers.

Analyze of recent research

Virtual classrooms as main source of studying at higher education institution was examined by many scientins namely Maarif S., Maarif S.,Umam K.,Soebagyo J.,Pradipta T.R., Sengupta S., Nguyen T.-H., Nguyen T.-H.,Tran D.-N., Tran D.-N.,Vo D.-L., Vo D.-L., Mai V.-H., Mai V.-H.,Dao X.-Q. and others.

In their research on mathematics virtual classroom practice at the university Maarif S., Maarif S.,Umam K.,Soebagyo J. and Pradipta T.R. proved positive impact of virtual classrooms at the student’s motivation to study, to work in teams, etc. (Maarif et al., 2022; Diahyleva et al., 2020).

Sengupta S. investigated the impact of online studying at India. The challenge while COVID-19 pandemic there was to choose the most usefull resourses for conducting online classes (Sengupta, 2022).

Smart universities which use AI including virtual assistant robot were described by Nguyen T.-H., Nguyen T.-H.,Tran D.-N., Tran D.-N.,Vo D.-L., Vo D.-L., Mai V.-H., Mai V.-

H. and Dao X.-Q. The benefits of virtual classrooms use there were in the reduce of workload and enhancement of the effect in teaching and studying (Nguyen et al., 2022).

BigBlueButton as a resourse to conduct online classes were the object of the research of following investigators: Belenko V.A., Serebrovsky V.V., Nemtsev S.N., Klepikova A.G., Geislinger R., Milde B., Baumann T., Biemann C. and others.

To check the efficiency of a university video conferencing system Belenko V.A., Serebrovsky V.V., Nemtsev S.N. and Klepikova A.G. described BigBlueButton and the Scalelite balancer. Both systems were used at National Research University "BelSU" to provide synchronous online classes. The benefits of their use were listed in the research (Belenko et al., 2021).

Geislinger R., Milde B., Baumann T. and Biemann C. investigated the software of BigBlueButton. They also created a plugin which improves studying process.

Despite substantial range of studies on BigBlueButton plugin on LMS MOODLE at universities a number of questions on its use to form communicative competence of future ship engineers haven't been fully answered. In our opinion these questions are of greate interest.

Results

The backbone of virtual classes is to make the lesson interactive and to receive feedback opportunely. The training takes place under the teacher`s supervision face to face with students.

It has much advantages and benefits among the other forms of education: it is easy to use; active participation of each student; online board (which can have advanced functionality through which one can create diagrams, draw shapes, write texts, download educational materials in different formats, broadcast video and audio material); the possibility to record the lesson (in any time students can repeat the material).

Online education is not only the webinar or training where the students can passively observe what is happening. Everyone is involved in educational process and takes active part in what is happening. The teacher can monitor every one and involve in discussion of the topic. Such form of education encourages the students to interact with each other and with the teacher. The activities can be made in groups or individually and teacher can assess them.

The COVID-19 pandemic stimulate the transition to a new format of education. As technology continues to transform all areas of life, teaching and online learning poses new challenges for both educators and students. The question of finding the resource during online education was arised. The source that should allow organizing of online education and meet all our requirements. We have gone through a lot of services such as Edmodo, Zoom, Google

Classroom, iSpring Learn, ATutor, but the only one that met the requirements for the training of marine specialists became BigBlueButton (Han, 2018).

It is a global teaching platform and a web conferencing system designed for online learning. BigBlueButton also exists as a plugin that can be **integrated with** Moodle? which makes it a particularly interesting tool for those who use this platform. Educators appreciate the intuitive nature of the BigBlueButton's feature set, including tools that make it easier for teachers to focus students on the lesson. BigBlueButton offers a veritable virtual classroom and allows users:

- to upload documents: easy presentation upload with the support for PDF, text, images and Microsoft PowerPoint, Word, and Excel documents;
- to use whiteboard annotation of slides for highlighting content;
- to hold breakout rooms to get students engaged in collaborative learning;
- easy group polling that encaurage more student engagement ;
- to share video options: low, medium, and high-resolution video options that serve all levels of WIFI bandwidth;
- to use public and private chat;
- to share notes for easier group collaboration;
- easy, intuitive screen sharing that keep students engaged;
- a hand rising feature;
- student feedback through the use of emojis;
- the ability to easily share video links within the main presentation area and playback is controlled by the instructor.

This service has pros and cons. Advantages of BigBlueButton are the following:

- the best open source software for video conferencing which contains all features having in paid software;
- very easy to set , implement and has very simple view help anyone to manage it;
- a flash player HTML5 with excellent sound, video and great presentational features (if you have a stable internet connection);
- perfect for teaching, explaining, giving lectures (Reyes Mogollón et al., 2018).

There are also disadvantages while using Big BlueButton:

- it is possible to host not more than 100 participants;
- the recording can start to fail and some times the conferences got wrong;

- it is impossible to upload more than one file;
- it has a horrible tendency to freeze up and distort video;
- some IOS users won't hear anything if they join in a listen-only mode;
- it has the limited screen for presentation (Faye et al., 2018; Vasconcelos et al., 2017).

In order to invite students (participants) to the conference educator can copy the link and send it to participants of the video meetings among the available means of communication e.g. e-mail, instant messengers, sms, etc. According to the time students enter the link address in the address bar of their browser, and enter a video meeting or use a button on their page. Meeting organizer`s (teacher) permission login is not required. It is comfortable especially when the lesson is started but some students are late. In such way the teacher doesn`t abstract himself from the lecture, explaining of the new material, interviewing, practical task, etc. The teacher can use the management tools to download presentation (or delete it) and set up its demonstration. Communication with the participants takes place in the video mode or in the chat mode. The video meeting organizer (teacher) can delete any participant, make host or send him a private message (Cherniavskyi et al., 2020).

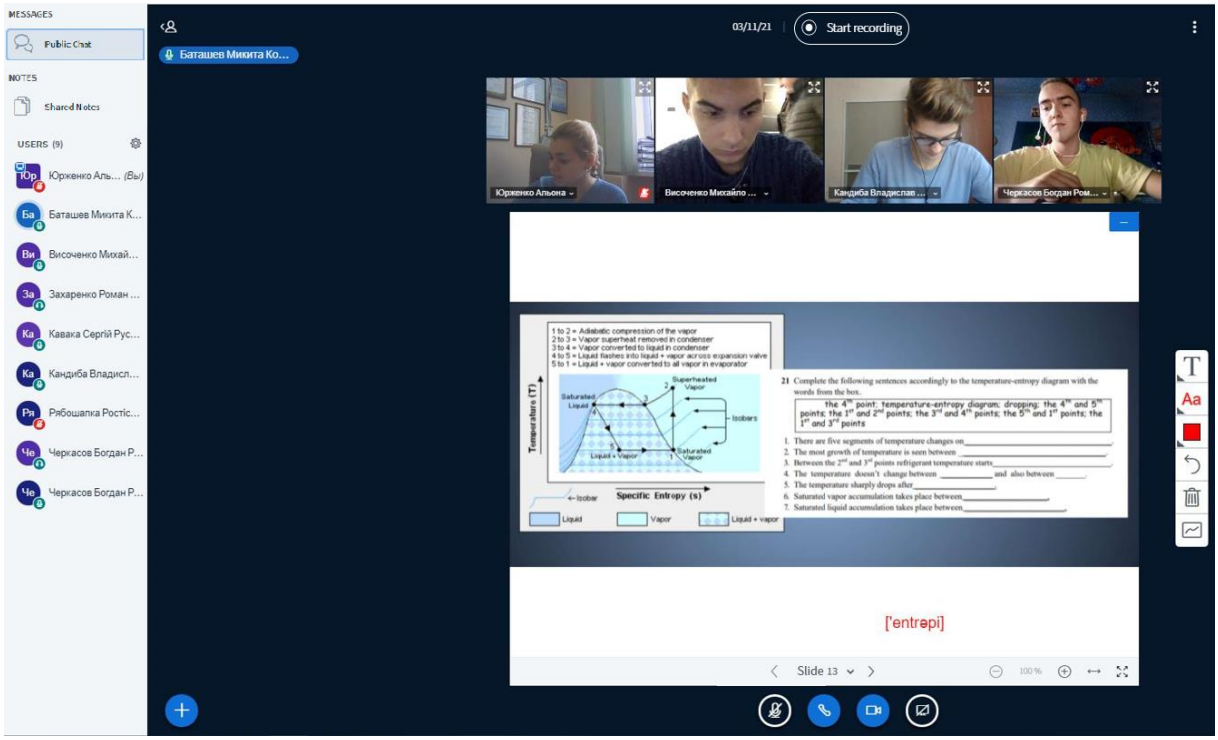
The Moodle plagin BigBlueButton provides the possibility as a synchronous communication between participants in the educational process. For example:

- student and teacher can see the same page of the e-textbook;
- the teacher at his own discretion can play and stop video and audio materials of the lesson for the student;
- also the educator can monitor the real time exercise;
- the teacher can get feedback.

Mix up your activities to keep things interesting. Just because you’re online, it doesn’t mean students can’t collaborate. Many platforms allow you to put students in pairs or groups to work together in designated chat rooms. As a teacher, you can drop in and out of these rooms to monitor how things are going, and give feedback just as you would in a regular class. The example is given below.

Figure 1

Maritime English online lesson for future ship engineers on BigBlueButton plugin of LMS Moodle.



Conclusions

In our country online education is on the rise nowadays. It is comfortable not only for the teacher but for the students too. Also, it breaks our barriers which can be offline. Moreover, due to Covid-19, online education solves the problem of the safety of the teacher and the students. Excessive online education is difficult to withstand for both students and teachers. But the transition to distance learning requires restructuring of educational approaches from the teacher`s side: instead of reading - use research, instead of control – use challenges. And from the students` side, distance learning also requires other skills – like self-organization. Unfortunatelly, students have no motivation to study, that is why all material should be explained in the most available and systematic way, because students usually master the material themselves longer than under the guidance of a teacher. It is better to involve different learning formats at the same time: for example, offer students several options for homework (make an edvertisement, or a project). It is important to gather feedback: this way the educators will understand which activities students like and which are effective, and, on the contrary, which reduce the desire to study. Distance learning can get acquainted with new learning

technologies, learn to allocate time correctly, make education inclusive and accessible for learners and develop an individual approach for each students.

Distance education has allowed to crystallize new approaches to the educational process. It is a new opportunity, but not a limitation. The main thing is to study how to use them correctly.

In our next researches, it is planned to analyze the influence of self-study platforms on the formation of the competence of future seafarers.

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