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REVIEW OF DIGITAL TOOLS TO PROMOTE STUDENT ENGAGEMENT IN ONLINE LEARNING ENVIRONMENT

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ОБЗОР ЦИФРОВЫХ РЕСУРСОВ ДЛЯ ВОВЛЕЧЕНИЯ СТУДЕНТОВ В УЧЕБНЫЙ ПРОЦЕСС В СРЕДЕ ОНЛАЙН-ОБУЧЕНИЯ

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Abstract. The present article aims to discuss the significance of online student engagement and ways of promoting it in the era of digital learning. The Community of Inquiry framework presents the balanced structure of three dimensions, namely, the teacher, cognitive and social "presences" that are considered to be interrelated aspects of online courses to promote student engagement. The author also discusses the nature of synchronous and asynchronous module structures and their distinctive characteristics in online courses in line with several digital tools used during the pandemic lockdown in the 2020-2021 academic years that had major positive results in fostering online student engagement.

Аннотация. Настоящая статья направлена на обсуждение значения онлайн-вовлеченности студентов и способов ее продвижения в эпоху цифрового обучения. Модель «Community of Inquiry» представляет собой сбалансированную структуру трех аспектов, а именно преподавательского, когнитивного и социального «присутствия», которые считаются взаимосвязанными аспектами онлайн-курсов для содействия вовлечению студентов. Автор также обсуждает природу синхронных и асинхронных модульных структур и их отличительные характеристики в онлайн-курсах и представляет обзор нескольких цифровых ресурсов, протестированных во время карантина в 2020–2021 учебных годах, которые дали положительные результаты в стимулировании онлайн-вовлеченности студентов.

Keywords: engagement in learning, cognitive presence, teacher presence, social presence, online tools.

Ключевые слова: вовлеченность в учебный процесс, когнитивное присутствие, присутствие учителя, социальное присутствие, интерактивные ресурсы.

With the COVID-19 pandemic gradually evolving from 2019, the whole global situation has revealed shortcomings and a rudimentary level of online tertiary education in Uzbekistan. Previously, as the system of education has been mostly functioning in a face-to-face mode in all dimensions be it entrance examinations, revision and assessment practices, input presentations, knowledge consolidation, course participation, staff or chair meetings and seminars, administrative paperwork, everyone involved in teaching and learning process was used to physical presence. Logically, there was not such an urgent need to develop off-campus learning for university students and teaching staff. The teacher's image has traditionally been accepted as the leading figure in class

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regulating and monitoring student progress. However, due to the spread of the decease and lockdown restrictions, there was a forced shift towards online learning in which even experienced instructors had to encounter completely different aspects of online mode and cope with everyday challenges of "a distanced class environment". Also, university students given considerable independence while being placed in self-paced learning conditions had their struggles in online learning. Many students' concern was lack of instructor presence, reduced intrinsic motivation leading to procrastination issues and self-discipline problems. Notably, the use of various technology and online applications posed considerable problems both for teachers and students in the pandemic-induced period. Even though cyberspace is considered as something ubiquitous around the globe and it is a necessary prerequisite for successful implementation for online learning, Internet and technological devices were not available to connect to the online network in some remote places of the country due to no-signal zones.

This article aims to extend the research with the collected results based on personal experience throughout pandemic timeline as teacher-in-service, on factors that raise student engagement in an online environment, and present technological ways to personalize online space for a successful autonomous student learning process.

It is not enough to transfer offline course content and accompanying components to Web-based space to create an effective online course [1, p. 314] In online studies, the initial question that course leaders and teachers are invited to enquire is whether or not they engage their students in a way where students are willing to take initiative for their learning. The initiative is one of the vital so-called 21-century skills that entails the notion of responsibility and accountability that pushes students to own their learning. The founder of the earliest views on self-regulated learning, Malcolm Knowles states that "…individuals take the initiative…in diagnosing their learning needs, formulating learning goals, …choosing and implementing appropriate learning strategies" [2, p. 18]. Even appropriately designed, online learning requires more self-discipline and initiative on the part of students [1. p. 3]. Student initiative fostered by instructors creates online engagement. Prominent researcher on student engagement, George Kuh, defines the notion of engagement as "the time and energy students devote to educationally sound activities" [3, p. 25]. Online engagement happens when students get involved with the activity without thinking about timing and do the given task just for the sake of the process itself. Online engagement also entails students acquiring knowledge and their readiness to showcase the amount of progress in learning the assigned materials. Marcia Dixon states that engagement is composed of individual attitudes, thoughts, and behaviors as well as communication with others [4, p. 4]. In Uzbekistan, however, this task is seriously impeded by the expectations of students in tertiary education since university students expect teachers to be in the leading role. Consequently, the most demanding task for instructors is to create, enhance and finally maintain student initiative and engagement in online learning conditions.

Engagement research is traditionally wrapped up around Social Constructivism philosophies. Researchers differentiate three common types of student engagement: behavioral, emotional, and cognitive engagement [5, 6, 8]. Behavioral engagement is measured primarily by the amount of "student activity" through which students showcase their efforts in doing the assigned tasks, for example, course paper; emotional engagement is presented via means of communication with the faculty members, course instructors, tutors, and with other group mates. Emotional engagement entails attitudes towards the components of online study and its participants. Cognitive engagement happens when students assess to what extent the course, they are involved in is authentic and relevant to their actual lives [1, p. 314].

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Another model of engagement in online learning is called the Community of Inquiry Model (CoI) [8–10]. CoI is also powered by Social Constructivism views that posit teaching presence, cognitive presence, and social presence as components for significant learning to happen. Initially, the attention of most researchers was drawn exclusively to the importance of social presence and this dimension received a considerable amount of empirical quantitative and qualitative research, however, it was only after F. Henri that "turned attention to cognitive dimension" [10, p. 158]. The theoretical framework of CoI identifies cognitive presence as an inseparable part of tertiary education in the sense that this presentation includes the conceptualization of input, the ability of learners to operationalize and apply newly gained knowledge through continuous reflection and discourse [10, p. 161]. In turn, social presence is the ability of learners to perceive themselves and other participants of the course as "real persons" behind the screen despite the physical distance and asynchronous nature of online education. Social presence promotes a sense of community in learners when they keep participating in online discussions or frequent online interactions with the instructor. In other words, students gradually develop a feeling of "connectedness" to the course and the idea of being a part of the learning community. Teaching presence is developed under the idea that topic-relevant and social discussions within the course scope is not sufficient enough to provide students with a sense of structured learning and progress; teaching presence provides set outlines for the course curriculum, design, and instructional input to eliminate a degree of uncertainty that students might experience due to the absence of face-to-face interaction. That is the primary reason for the emergence of teaching presence which provides organization and a carefully structured way for meaningful student progress. In addition to effective instructional design in teacher presence, it is important to outline that "strong and active presence on the part of the instructor … is related both to students' sense of connectedness and learning" [11, p. 185]. The active involvement on the part of the course instructor is also contributing to successful and efficient results in online education. The CoI framework is a communication medium that presents three parameters that are inextricably intertwined and complement each other creating a positive educational experience in cyberspace.

Concerning types of engagement, it is of paramount importance to discuss the modes of learning in terms of online education as well [12, 13]. It is beyond the scope of this article, however, to discuss all existing module structures being used in online education. The current focus is only on two major modes of online teaching space: asynchronous mode, or asynchronous first/synchronous second mode. The latter could be modified by changing modes to synchronous first, asynchronous second. It is assumed that asynchronous mode allows students more flexibility in terms of planned schedule as there are no traditional meetings to participate in at one fixed point in time. Content material could be studied at any given point within students' time availability, learning preferences, and Internet access. In a mode where synchronous learning is also included, students meet with the course instructor using online communication tools such as Zoom video-conferencing or Telegram video chat options. This type of meeting resembles the traditional offline mode except for physical presence; the classroom environment is changed to a virtual space of study (refer to Figure 1 and Figure 2).

Figure 1. Asynchronous mode of study

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Figure 2. Asynchronous + Synchronous mode of study OR Synchronous + Asynchronous mode of study

Consequently, it is obvious that wisely selected module structures could be used to foster and promote online engagement to buttress students' learning in cyberspace. To do so in an efficacious way, it is advisable to use a certain place in online space as a home base; an appropriate example would be Learning Management Systems (LMS) platforms such as Moodle, Canvas, Blackboard, Google Class, where students can access study materials and tasks at any point of the course duration. Online platforms are valuable in the sense that everything related to the course program could be found in one particular place; they serve as a starting point. This creates a sense of consistency among learners and compensates for a feeling of uncertainty developed due to the inability of physical presence in the classroom that limits the natural interactive value of the learning process. Once the course content is created and placed in the LMS platform, there is a time to decide what mode of learning would be the best optimum for the learning audience. Of course, the given question, in many instances, depends on the teaching philosophy and requirements of the educational establishment, however, it is advisable to contemplate about needs and preferences of potential students who are going to master the given course. Many factors influence the module structure. Student volume and number of credits, course intensity and its level of difficulty, availability of instructors, and resourcefulness of faculty also play a crucial role in selecting synchronous or asynchronous modes of study. When the most suitable module structure is selected course instructors can start building activities of the course based on three basic dimensions teacher, cognitive and social "presences" introducing asynchronous/synchronous online tools or a blend of them in cyberspace enhancing student scaffolding, fostering online engagement, and promoting student initiative that inevitably leads to more perseverance and self-regulated progress in an online environment.

As we gained some insights on online student engagement, we would like to share personal reflections and suggest a set of online tools that were efficiently used during the pandemic period with graduate students of Uzbekistan State World Languages University in the 2020-2021 academic years. Our recent spontaneous implication in online teaching shaped a strong belief that given appropriate technological solutions that go hand-in-hand with the thoughtful pedagogical framework "…it is possible to convert a face-to-face learning experience into a rigorous and rich online experience that is rewarding to both students and instructors" [15, p. 18].

Online tools to support student engagement in synchronous and asynchronous module structure:

1. *Zoom platform.* Zoom is one of the in-demand and well-approved platforms that gained popularity during the pandemic when the entire classroom process needed a place for synchronous communication while being isolated. One of the multiple applications of this platform is that it allows gathering in virtual space teacher and student communities for lectures and interactive seminar/practical classes. Several notable Zoom features make learning accessible and entertaining for students. For example, in Zoom conference, the presenter normally can share visual aids to enhance the learning process. There is also a chat and signs such as clapping, thumbs-up, etc., that allow students to participate in discussions in multi-modalities, i. e., they can express their attitude not only verbally but also by addressing in chats or selecting one of the emotional signs while

anyone else is holding the floor. En passant, it is also worth noting that the chat window in Zoom can be utilized to warm up the beginning of the lesson. For example, for making acquaintance with new students at the beginning of the course, the instructor might ask students to use a chat box to key in three words in gerund form that they enjoy doing except sleeping, eating, and watching TV. The activity as simple as that might initiate social presence emergence when students learn about each other comparing pastime activities under the course instructor's lead. Another notable feature of Zoom is the so-called breakout rooms. This function allows the conference leaders to create separate isolated virtual spaces within the ongoing session in which appointed students could be grouped for a certain amount of time. The person who is in charge of breakout rooms can regulate the timed activity, enter the separate virtual groups and facilitate or just listen to the ongoing discussion happening there. This option helps instructors to group's students into small teams or pairs and allows participants to work cooperatively during the synchronous session.

2. *Google folders and Google documents.* Google folders and Google virtual space for documents is considered to be one of the most convenient and easy-to-navigate online tools that are the "go-to" choice not only for teachers but also for many other professionals around the globe. It is the tool that is tied up to Google accounts, logically, we need to collect our student's Google emails to set up personal folders for each student in case we aim at creating a virtual space to which students might send their assignments (refer to Figure 3). Students can collect their works in their folders throughout the entire term, while an instructor has an option to check and write feedback in the comments section. It is very advantageous for multi-staged assignments in part because students work regularly on their projects and all newly made improvements are visible for the instructor; also, back-and-forth comments between course instructor and students in the course of learning creates teacher presence that in turn, provides a sense of scaffolding and support for learners. In other words, continuous teacher-student interaction through the comments section functions as an online dialogue journal where teacher-student communication fosters personal responsibility for the course and one's self-directed learning.

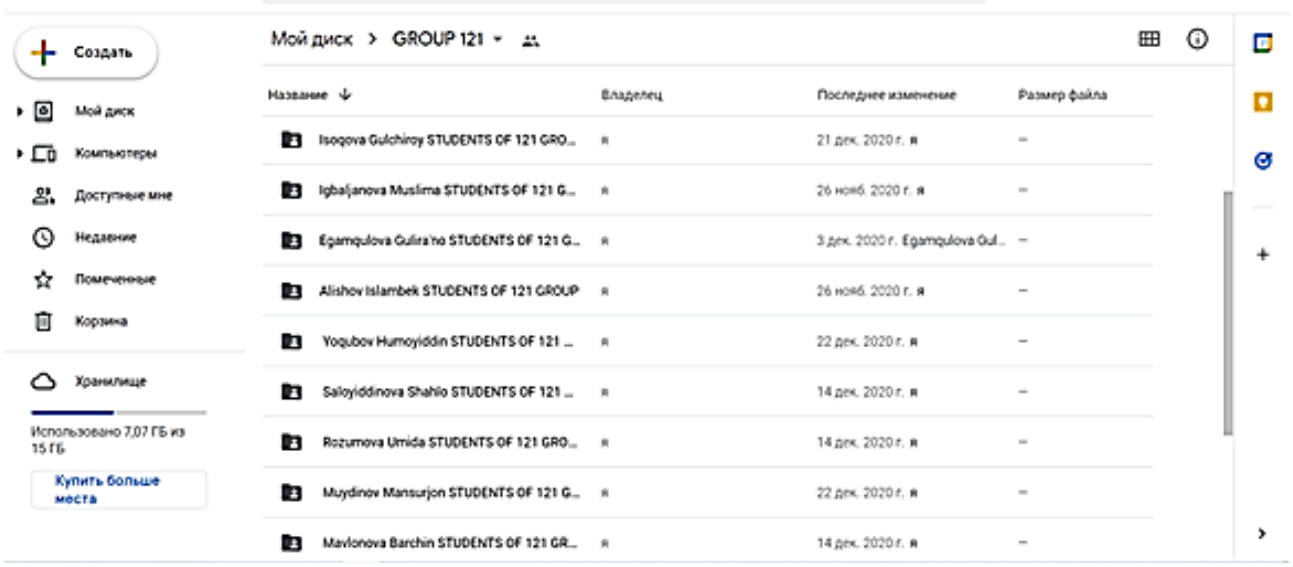

Figure 3. Personal Google folders for students

Another feature that gained genuine appreciation among students last year, was collaborative and cooperative online documents. The specificity of such documents is that students are given

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access to the task where they can work simultaneously. The task could be filling out tables, creating glossaries, writing answers for prompts, or constructing comprehension check questions for revision. In 2020, when lockdown consequences were at their height, I and one of my groups of first-year graduate students, for example, put to practice collaborative glossary assignments in Google folders. Students were tasked to select a certain number of theoretical and practical notions that we covered in the course and fill out the presented table-formatted glossary (refer to Figure 4). The glossary was designed in four columns where each column identified different aspects of the term. Students were supposed to type in the name of the term in the first column, while the definition of terms or explanations with a reference in the second column; in the third column, however, students were requested to paraphrase the given source definition with their own words, while in the fourth column illustrations of the discussed notion were placed. The learning value of the task was to create an opportunity for students to consolidate theoretical notions by repeating them in multi-modalities, not only in the traditional written form but also with help of infographics. Instead of creating separate glossary items in personal documents, students were given access to a single document that accumulated all entries created by students allowing them to collaborate and learn from one another in the course of action. Student reflections that were collected one year after the experiment finished seem to support our views. One of the participants stated that "*I found this activity creative and insightful for us because it made us revise the crucial words, remember main concepts of the theme. We developed our paraphrasing skills, as a result, we enriched our vocabulary range. One of the best advantages of this activity was we used different pictures to create images about this concept*". Another student remembered that online collaborative Google documents were "*an easy way to learn new terms we had in the sessions. Especially, when I searched appropriate illustrations for the definition of the term, it helped me a lot to grasp the meaning more quickly and easily. Plus, making paraphrase of definitions improved my paraphrasing skill*". From our limited experience, we can conclude that collaborative online documents can be a source for sustainable practice that is a valuable asset to help students to retain newly acquired theoretical material.

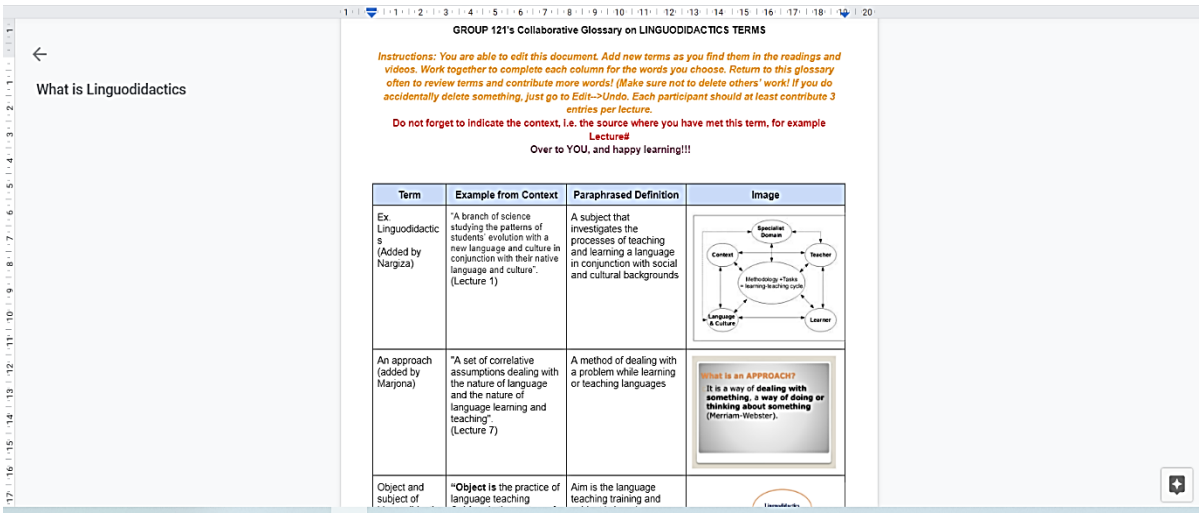

Figure 4. Collaborative Glossary

3. *Poll Everywhere (PollEv).* Poll everywhere is a platform for collecting quick student responses in asynchronous and synchronous class module structures. It can be introduced at any stage of the online class be it warm up, presentation, practice, or production stages. This online

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technology tool has an impressive list of features free of charge to assist teachers to elicit necessary student responses quickly and effortlessly. Other more advanced functions of PollEv. are charged, however, the functional variety available for free is above and beyond what every language instructor needs. This digital tool offers to generate questions in numerous formats such as selected responses, short responses, or open-ended questions. Students are offered different options how to react to the teacher's prompt: they can press likes and dislikes to given statements, for example, true/false, they can rank items in order of importance or they might express their attitude and vote for items they like in the prompt (refer to Figure 5). Short responses and open ended-questions are also offered to elicit more elaborate responses to questions. One feature that we appreciated most is the straightforward way of accessing the tasks on this platform. Once the activity is created it is only enough to generate a link and share it with the students. PollEv. does not require student accounts which is time-saving during the synchronous session. Moreover, students can access and participate in an activity anonymously if they wish to do so. That allows students to engage in activity without being stressed out about "saving the face" (refer to Figure 6).

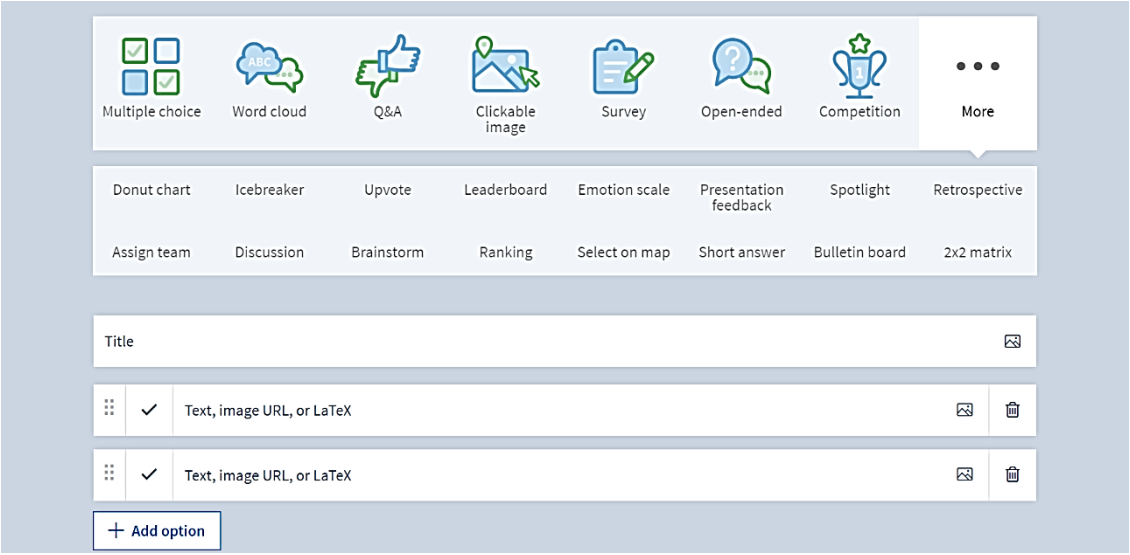

Figure 5. Poll Everywhere Activity page

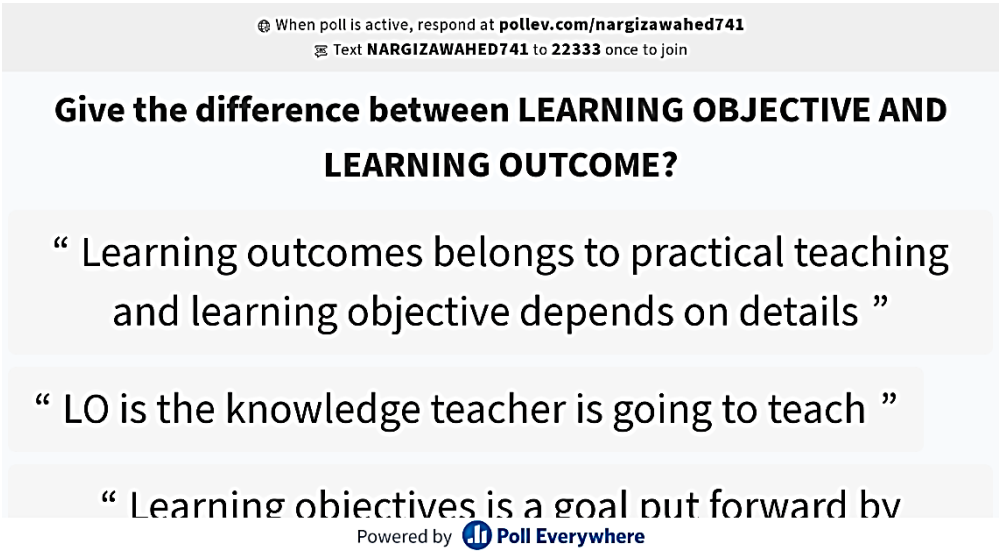

Figure 6. Poll Everywhere-student response display

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Flipgrid platform. From our personal experience, we consider this digital platform as one of the truly outstanding online tools that were created to promote online engagement. It is excessively user-friendly even to people who are only beginners in cyberspace. One of my student's reflections about easy navigation was as follows: *"When I received the task, I said that oh it would be kind of headache for me as I haven't used such apps before. However, I could deal with it once I entered the platform. The reason is that this platform is easy to understand"*. Since the platform's motto states to "empower every voice" on the welcome page, it is clear that all major work is done in an asynchronous mode. To use Flipgrid, educators have to create an account in it while students might gain access via a shared link or student accounts. Student profiles are created to the task by adding their Google emails or they can be imported directly from Google classroom. In this platform, teachers can create tasks in multi-modal ways: tasks are posted in writing or video/audio formats. There are options for activities to be supplied with links to some outer sources, images, and icons. Based on the course instructor's preferences and aims for the discussion, students may be tasked with video/audio responses to a prompt (refer to Figure 7).

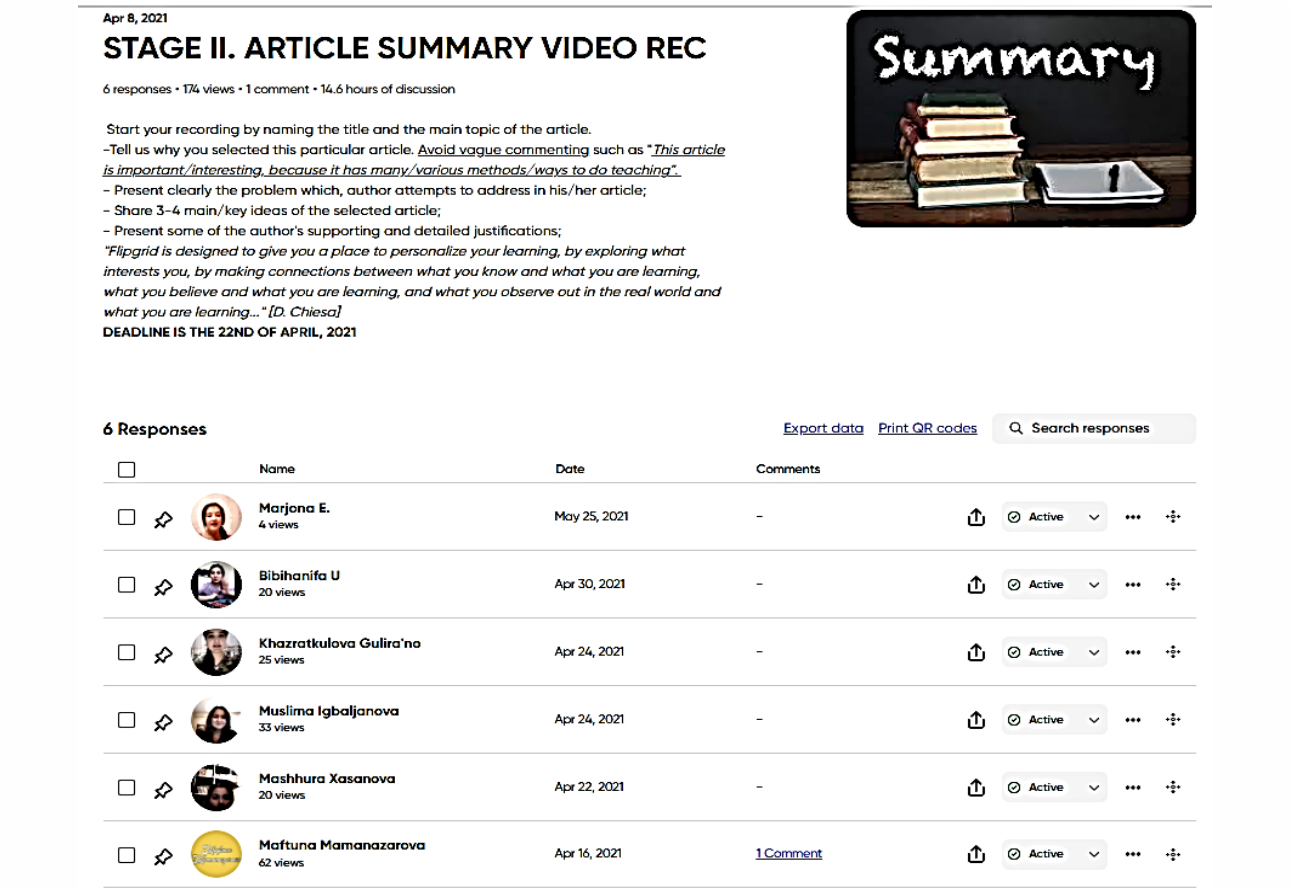

Figure 7. Flipgrid student display

Student answers will be available to watch only to participants to whom access has been granted or only to those who have a link to the given task. Furthermore, the comments section of Flipgrid has a quintessential functionality; students along with the course instructor have an opportunity to record video feedback or comment in writing as well. By doing so, students are invited to discuss the given issue reflecting not only on the instructor questions but also on each other's responses. Involving students to participate actively through self-recorded answers helps to

create a friendly learning atmosphere and adds up to the participants' being "real" students. The students whom I asked to share their experience with this online tool expressed their content "*video tasks on Flipgrid, we did in the subject was intriguing and unique"*. One more notable feature of self-recording that the students enjoyed experimenting with were video filters and special effects that could be applied to the recording, as one of the students noted *"it is intriguing, there such beauty effects which make the video different and comfortable (u can both upload and record the video for the time being). In short, this platform is a very helpful and innovative way of assessing students and in the future, I also would like to use it in my teaching process..."* Overall, Flipgrid is highly advised to use as it is raising not only teacher presence but also social and cognitive presence as well.

In conclusion, it is evident that the quality of student learning is directly dependent on online student engagement. That means engagement is a significant factor in student progress generated by teaching, cognitive and social presences. Online tools such as Zoom, Google documents, Poll Everywhere, and Flipgrid educational platforms are viewed as invaluable assets in promoting and maintaining student engagement in online learning conditions. The author of this article would like to express gratitude to the instructors Dr. David Chiesa and Elise Brittain of the training course Digital Pedagogy and Assessment Practices (DPAP, 2020-2021) for helping to acquire insights on the effectiveness of online education leading to the publication of the present article.

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