

Chapter 25

Nearpod: An Effective Interactive ICT Tool for Teaching and Learning Through Google Meet



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Abstract In the digital era of education, the use of ICT tools is important for all human activities. School children, college students, graduates of various streams, and teachers are dependent on digital technology for teaching and learning. Student interaction and engagement is one of the challenging tasks in an online classroom for teachers of various streams to deliver the knowledge efficiently. An interactive Web-based platform improves the learning experiences of students and reduces the teacher effort. The transition from traditional lecture-based teaching methods to interactive learning can be accomplished by using various interactive tools such as Nearpod, Kahoot, and Socrative. Nearpod is a Web-based tool that allows the teacher to engage students during the online virtual sessions by creating contents with the addition of video, slide, Web content, Nearpod 3D, slideshow, audio, PhET Simulation School-level mathematics concepts, VR field trip, and Sway and also to create interactive lessons by including various activities such as Time to Climb, Quiz, Flipgrid, Poll, Fill in the Blanks, Memory Test, Matching Pairs, Collaborate Board, Open-Ended Question, and Draw It. This paper describes the various features of Nearpod and content creation, using Nearpod for effective teaching and learning.

25.1 Introduction

Digital technology facilitates teaching and learning methods in education using Google Meet, Zoom platform, etc. Students participate in virtual lecture sessions and finds a lack of interaction, lack of communication skills, and lack of face-to-face communication. There are various approaches presented by authors to improve the interaction between students and teachers.

The use of interactive technology such as Google Meet and the Zoom platform for teaching, meeting, and interaction in visual and audio appearance is more efficient, effective, and safe. The challenge of handling the teaching process in engineering and technology subjects to cover the syllabus in a stipulated time [1].

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The author described that large class teaching in higher education is a challenging aspect to interact with everyone by adopting teaching–learning practices to bring quality education and finds a lack of practices and policy in teaching and learning [2].

The author discussed cloud-based technologies Nearpod to provide active and collaborative teaching–learning for large classes [3].

The students are expected to actively participate in a virtual platforms-based class, and effective learning can be ensured if students apply the gained knowledge from sessions. To create an effective teaching–learning environment, there should be meaningful interaction between teachers and students.

A study of student’s participation in the virtual classroom through Google Meet is presented with feedback received from students based on survey questions conducted for a class of 60 students and 48 students contributed to the survey. Students do not actively participate in a virtual classroom session due to various reasons, but few of them are represented through the graphs.

Figure 25.1 shows participation of students on virtual classroom for 40 min. The attention of 15 (7 + 8) students is between 30 and 40 min. It means that teacher needs to engage students by questionnaires’ or through activity.

Figure 25.2 shows the few reasons for loss of attention in a long continuous virtual session. Thirty-six (22 + 14) students mentioned that due to continuous long sessions and it indicates teacher should allow students some kind of break or any interaction.

Figure 25.3 shows the student’s behaviours during the virtual classroom are collected and most of the students are hesitant to interact with the teacher.

In the digital era, students have adopted technology in academics to improve the performance. To cope up with these, the teacher needs to use different strategies for teaching and learning. Based on the feedback survey, student’s participation in the virtual session is addressed by using Nearpod applications.

The main focus is to engage students with various assessment methods, active participation strategy, and content creation. Since the inception of smartphones’ use of educational applications, WhatsApp application, Web-based Kahoot and Socrative tools, etc. [4], are fast-growing in the assessment of student activities in the classroom

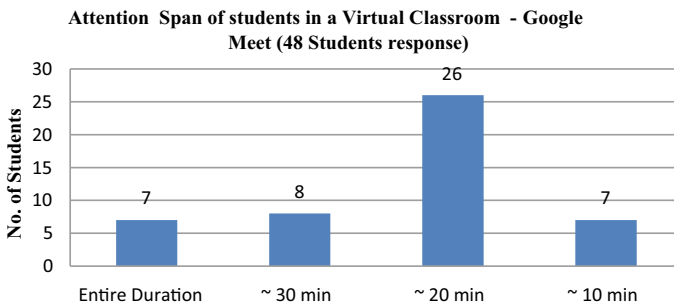


Fig. 25.1 Attention span of students in a virtual classroom—Google Meet

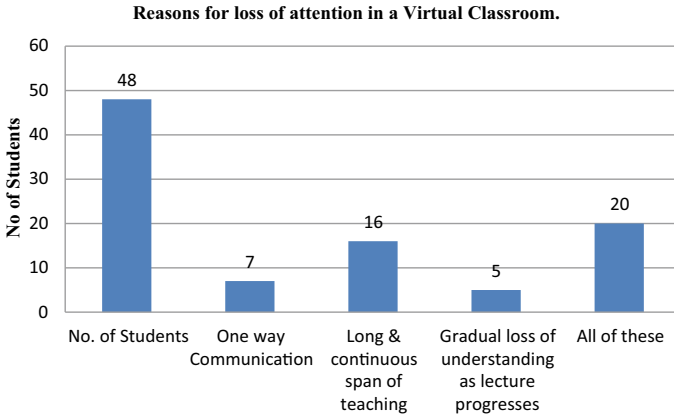


Fig. 25.2 Reasons for loss of attention in a virtual classroom

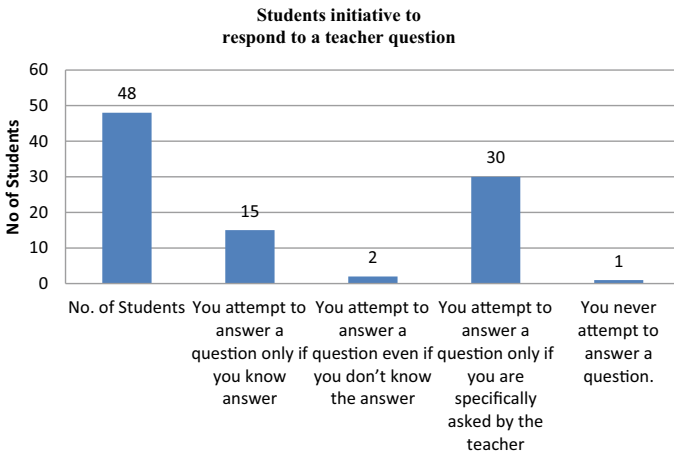



Fig. 25.3 Students initiative to respond to a teacher question

or teaching–learning procedure. All these are facilitated by wireless technology and smart devices available at a low cost (Table 25.1).

Nearpod is the most interactive, engaging, and motivation tool compared with Kahoot and Socrative as per students and teacher experience. It is also easy to use for teachers to create content by embedding various activities.

Table 25.1 Various features of Nearpod application

S. No.	
1	Free online assessment and interactive tool for teachers to create content by embedding features video, slide, web content, Nearpod 3D, slideshow, audio, PhET simulation, and VR field trip [7]
2	Desktop computers, laptop, mobile devices, and tablet. It supports all browser types
3	Activities of gaming type—“Time to Climb”, “Collaborate Board”, “Draw It” and other activities Quiz, Flipgrid, Poll, Fill in the Blanks, Memory Test, Matching Pairs
4	All features accessed by “unique code” can share through email, social, link, Google Classroom, Microsoft Teams
5	Results of the whole class and individual students are available with progress and statistics reports
6	Students can use teacher presentations by unique code shared with students

25.2 Use of Nearpod


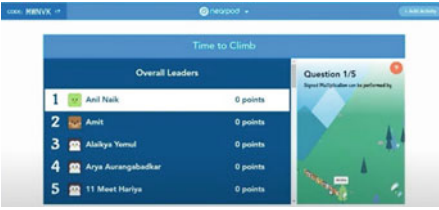
Nearpod is a Web-based application accessible in various low-cost available devices, is easy to use, and supports all browsers with an Internet connection [5–7].

Steps to Use Nearpod

- Teachers can share unique codes to access created presentations in the Nearpod application.
- Students log in by inputting unique code shared by the teacher.
- After successful login, students can see the teacher’s presentation on his device screen.
- The teacher is having control of the presentation with restrictions to view the next slide by students.
- The teacher can view the number of students active during the session.
- The teacher can also monitor individual student progress and participation in all activities in real-time and also in a graded report.
- Activities such as Time to Climb, Quiz, Polls, Draw It, and Open-Ended Question can be added by the teacher to his presentations, and it allows students to actively participate in a live session.
- The teacher can monitor student progress and understanding of concepts based on student response in activities.

Table 25.2 describes the traditional classroom-based teaching and interactive teaching using Nearpod.

Table 25.2 Difference between traditional classroom teaching and Nearpod interactive teaching and learning

S. No.	Traditional classroom teaching	Nearpod interactive teaching and learning [5–7, 9]
1	 <p>Students in class use their study materials such as notes, textbooks, and pen. Teachers use blackboard and display contents using LCD projectors to visualize and textbooks to describe topics</p>	 <p>Students in a live session at their place can use a smartphone, laptop, or any device using the Nearpod application. Students can view the presentation of the teacher and can participate in activities</p>
2	<p>During lectures, students can take notes and listen to the teacher but the teacher cannot assure student participation in the activity</p>	<p>During online virtual sessions, students can view teacher study content on a device with restrictions to move slides and can monitor the student participation in a quiz, poll, and team collaboration activity</p>
3	<p>After the lecture, the teacher asks questions or no activity</p>	<p>After the session, the teacher can conduct a quiz or poll to know student’s understanding of the topic and activity participation of a session in the graded report</p>

25.3 Result Analysis

The virtual session is delivered using the Nearpod application through the Google Meet platform. During the session, *Time to Climb*, *Matching Pairs*, *Open-Ended Question*, and *Draw It* activities are conducted to students to assess the topic understanding and to monitor the student progress. With Nearpod, a grading report is generated at end of all activities automatically to the teacher-registered email ID by software. As per students’ understanding, teacher can discuss the answer for each question at the end as formative feedback. The teacher can realize the topic understanding based on student response through grade reports. Figure 25.4 shows a screenshot of the activity, and a video link for the activity conducted is provided [8].

Benefits of Nearpod activity with teacher perspective are to design and create content by embedding activities on a topic and to control presentation during the session. The teacher can also view how many students are actively participating and idle during the activity. The teacher also hides the student name during activity so students should not feel uncomfortable, if he/she shows poor performance in an activity. Students also expressed their positive opinion on the use of Nearpod application compared to Socrative and Kahoot application.

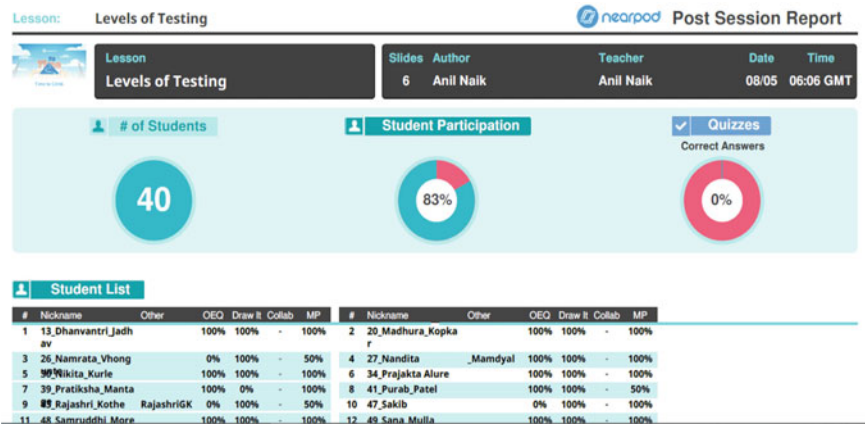


Fig. 25.4 Activity overall summary report

Six virtual sessions through Google Meet are conducted, and feedback survey of activity participation is collected. A total of 48 students are contributed and have shown interest to participate in future sessions with overall rating 4.5 out of 5 for Nearpod application (Table 25.3).

25.4 Conclusion

The use of the Nearpod application is a great learning experience for teachers and students. Interactive teaching–learning can be achieved in virtual teaching by using the Nearpod application compared to the traditional teaching method to engage students in a session for effective teaching and learning experience. Based on the survey outcomes, it is concluded that Nearpod is easy to use in teacher and student perspectives and increases student engagement. Nearpod application has effectively addressed issues such as improving the attention span of students, the participation of students in the class, the conceptual understanding of students.

The limitations of Nearpod applications are the free version limiting to 40 students for a session, and if you have weak Internet, then Nearpod will be slow and lagging.

The teacher can monitor individual student progress in real time through the generated report, can maintain the student participation report of all activity, and also can find out students who are showing poor performance during session activities.

Table 25.3 Benefits derived by using the Nearpod application

Have you participated in Nearpod activities?	Did you understand the topic conducted through Nearpod application in a Google Meet			How did you find the activity through Nearpod?	Does Nearpod application make you boring in a Google Meet		Do you want future sessions based on Nearpod application through a Google Meet		Overall rating on activity
	No	Fully	Partially		Not understood	Yes	No	Yes	
Yes	0	30	16	Average out of 5 4.2	0	48	48	0	Average out of 5 4.5
No	0	0	0		0	0	0	0	

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