



Interactivity software tools for teaching in ophthalmology

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Abstract: The use of interactive audience software, such as audience response systems (ARS), in medical education has become increasingly popular in recent years. This technology allows instructors to engage students in real time, encouraging active participation and promoting effective learning. The benefits of interactive audience software in medical education include increased student engagement, promotion of active learning, and enhanced learning outcomes. However, there are also several challenges to its implementation, including technical difficulties, careful planning and preparation, over-reliance on technology, and ethical concerns related to privacy and data security. The cost of implementing interactive audience software may also be a barrier for some institutions. This paper specifically reviews six interactive software platforms, including Socrative, Quizizz, Pear Deck, Slido, Wooclap and ClassPoint. These platforms allow for real-time assessment of student understanding, feedback, and participation. They also enable instructors to adjust their teaching strategies based on student responses and feedback. Overall, interactive audience software has shown great potential to enhance learning and engagement in medical education. It is important for instructors to carefully consider the benefits and challenges of its implementation. While the cost of implementing interactive audience software may be a barrier for some institutions, there are free and low-cost options available.

Keywords: Interactive audience software; mobile software; audience response systems (ARS); medical education

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Introduction

The use of interactive audience software in medical education has become increasingly popular in recent years. This technology allows instructors to engage students in real time, encouraging active participation and promoting effective learning. There is a growing body of research on the use of audience response systems (ARS), also known as clickers or polling software, in medical education. This paper will review the literature on interactive audience software in medical education that can be applied in ophthalmology teaching.

Methodology

A PubMed search was conducted covering the period from inception to January 20, 2024, employing the following search terms: (“Education, Medical”[Mesh]) and (“mobile software”) OR (“Kahoot”) OR (“Socrative”) OR (“Mentimeter”) OR (“Wooclap”) OR (“Pear Deck”) OR (“Quizizz”) OR (“Poll Everywhere”). Additionally, a Google search with similar terms was performed, and official websites for each platform were explored.

A variety of software solutions aimed at enhancing audience interactivity were analyzed and compared. For

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this study, the author selected and tested six of these tools. The selection criteria for the software were derived from published literature in medical education that utilized these platforms, as well as accessibility to their premium versions. Additionally, another three software tools were also included in the comparative tables. This manuscript provides a summary of the main features of each tool, along with their distinct advantages and disadvantages.

Background

Medical education has traditionally relied on a lecture-based approach, where students are passive listeners. However, this approach has been criticized for not being effective in promoting active learning and critical thinking. The use of technology in medical education has been identified as a solution to this problem. Interactive audience software is a type of technology that has gained popularity in medical education. This software allows students to actively participate in the learning process by answering questions, taking polls, and providing feedback in real time. Many options of ARS accessible by personal electronic devices are now available. Smartphones and tablets become powerful learning tools. These interactive pedagogic tools are accessed directly through the web and use systems that require less hardware and logistical support.

Benefits of interactive audience software in medical education

The use of interactive audience software in medical education has been found to have several benefits. One of the most significant benefits is increased audience engagement. Students are more likely to participate in class and pay attention to lectures when they are actively involved in the learning process. This is especially important in medical education, where participants must master complex and often technical material. Several studies have found that the use of ARS can increase student engagement and participation in medical education (1-3).

Another advantage of employing interactive audience software in medical education is its ability to promote active learning. Rather than passively receiving lectures, participants can actively engage in the learning process by responding to questions and providing feedback in real time. This active involvement fosters a deeper understanding of the material and enhances knowledge retention. Additionally, the integration of ARS enables instructors

to gather valuable insights into participant understanding and comprehension, empowering them to tailor their teaching approaches accordingly (4,5). Assessment plays a pivotal role in promoting learning and improving content retention. Three key types of assessment serve as integral components of learning strategies: diagnostic, formative, and summative assessments. Each type of assessment serves a distinct purpose and is essential at different stages of the learning process to aid instructors in gauging participant progress and understanding.

Diagnostic assessments, typically administered at the outset or conclusion of a course, provide instructors with insights into participants' existing knowledge of a subject. This information allows instructors to tailor their instructional methods and adjust course content accordingly. Formative assessment involves ongoing, frequent evaluations throughout the course to monitor participant progress and identify areas of difficulty. These assessments typically involve low-stakes tasks such as quizzes, reflective writing assignments, or group work. Based on the feedback obtained, instructors can provide guidance, support, and motivation to participants, as well as make necessary adjustments to their teaching strategies. Summative assessment occurs at the culmination of the teaching and learning process, serving as a measure of the extent to which participants have mastered the course material. It provides insights into the overall learning outcomes achieved by participants.

A third benefit of interactive audience software in medical education is the ability to enhance learning outcomes. Several studies have found that the use of ARS can lead to improved test scores and overall academic performance (3,6-8). This is likely due to the increased engagement and active learning facilitated by the technology.

Interactive software platforms make it easy for the presenter to connect with every single learner, increase participation, and get instant insight into attendee learning. With these platforms, presenters can make everyone feel connected and give everyone a chance to ask their questions, whether they are too shy to speak up. People can share their opinions anonymously with live polls, word clouds, or surveys, which allows for beginning discussions immediately.

Challenges of interactive audience software

While the benefits of interactive audience software in medical education are clear, there are also several challenges to its implementation. One challenge is the potential for

technical difficulties. ARS rely on wireless communication and can be susceptible to interference or connectivity issues. In addition, some students may have difficulty using the technology, leading to frustration and disengagement (2).

Another challenge is the need for careful planning and preparation. Instructors must design effective questions and activities that are relevant to the course material and promote learning. In addition, instructors must be prepared to adjust their teaching strategies based on student responses and feedback. This requires significant time and effort on the part of instructors, who must balance the use of interactive audience software with other teaching methods (1).

A third challenge is the potential for over-reliance on technology. While interactive audience software has shown great potential to enhance learning and engagement in medical education, it is necessary to use these activities sparingly. In some cases, it has been observed that fewer participants may answer the question as the presentation time progresses (9).

Furthermore, the use of interactive audience software raises ethical concerns related to privacy and data security. Instructors must ensure that attendee data is protected and not used for unintended purposes. Additionally, some participants may feel uncomfortable sharing their responses with the audience or worry about their answers being linked to their identity. These concerns must be addressed to ensure that learners feel safe and comfortable using the technology (6).

Finally, the cost of implementing interactive audience software may be a barrier for some institutions. While there are free and low-cost options available, more advanced systems can be expensive to purchase and maintain. This can limit access for smaller institutions or those with limited budgets (4).

Interactive software platforms

A variety of software solutions intended to enhance audience interactivity are available. Given the diverse array of options in the market, each with its unique strengths and weaknesses, this study will analyse six specific tools in detail, while additional three alternatives are also delineated in *Tables 1-4* for comprehensive reference.

Socrative

Socrative (MasteryConnect, Salt Lake City, USA) is a student response formative assessment system that can be

used with laptops, tablets, and smartphones. Socrative apps are available for download on all major digital devices and platforms.

Typically, the educator logs in using a computer connected to a projector, and participants join the virtual room with their mobile phones. When the instructor logs in, they have access to the platform and can prepare a quiz with several types of questions, including multiple-choice, true/false, or short answer. The presenter can also directly assess student understanding with on-the-fly questions and adjust teaching based on the results.

Socrative quizzes are relatively easy to create and allow for the inclusion of pictures and the selection of correct answers (*Figure 1*). Once a quiz has been created, it is stored and can be used as many times as needed or be modified. Since they are graded automatically in real time, Socrative is a very useful tool for assessment. Socrative is an efficient way to monitor and evaluate learning while delivering engaging interactions for learners.

The free version allows up to 50 participants and up to 5 quizzes. If Socrative results are being shown to the audience in real time while simultaneously presenting with PowerPoint, the presenter will have to switch between both or use the split-screen mode. This is a disadvantage of this software compared to others, as there is no integration with PowerPoint.

Quizizz

Quizizz (Quizizz Inc., Bengaluru, India) is a gamified assessment tool that allows users to create quizzes, presentations, polls, and e-learning materials that can be accessed on any device (*Figure 2*). It offers both presenter-led and self-paced activities and allows quizzes and polls to be assigned for completion before a deadline in asynchronous mode. Reports are saved and can be accessed at any time, with the option to export results to an excel sheet.

The platform offers the ability to create both quizzes and presentations, with the option to import slides from PowerPoint or Google Slides, although they will be converted to PDF and lose any animations or videos. Only YouTube videos can be added directly through Quizizz. Participants can join a presentation by accessing the Quizizz webpage and entering a session code, without the need to register or download an app.

Quizizz can be used in three modes: synchronous teacher-paced, synchronous student-paced, or asynchronous

Table 1 Interactivity software tools: key features

Software	Key features
Socrative	Real-time quizzes, detailed reports Formative assessments with in-depth analytics and reports
Quizizz	Educational games, interactive quizzes Formative assessments, content reviews, and increased classroom participation through real-time feedback from students
Pear Deck	Interactivity in presentations, real-time Q&A Custom Course Creation: interactive questions, polls, and quizzes for personalized learning, and monitoring participation in real time Instructor-Paced Mode: control over slide progression and display of student responses Teacher Dashboard: monitor student answers and provide individual feedback
Slido	Platform for interactive discussions and feedback collection Real-time Q&A, interactive surveys Quizzes can be created within their standalone platform or seamlessly integrated into presentation tools Enhance audience interaction whether in virtual or in-person in live settings
Wooclap	Real-time interaction, questions and quizzes Focused on immediate feedback and interaction with the audience Craft your presentation within their platform and seamlessly incorporate a variety of interactive question types throughout
ClassPoint	Teaching tools to streamline teaching experience, reducing the need to switch between various applications Advanced Annotation Tools enhancing the visual appeal and interactivity of lessons Assists you in generating questions based on your content using AI
Kahoot!	Educational games, interactive quizzes An extensive library of quizzes Engaging review games and competitive nature of quizzes
Mentimeter	Real-time surveys, open and closed questions Standalone solution for creating interactive presentations, quizzes, polls, and word clouds You can either transfer your entire lesson content to Mentimeter or utilize its quiz features independently Complements your presentations rather than being exclusively a quiz tool
Poll Everywhere	Interactive surveys, real-time voting, immediate feedback Straightforward tool with no gamification added It is simple to set up and use, with added analytics on responses Range of interactive features, such as live polls, surveys, and Q&A sessions

AI, artificial intelligence; Q&A, question & answer.

mode, and includes a timer for each slide and question, with results provided at the end (*Figure 3*). The free version allows for unlimited quizzes and up to 100 participants. Overall, Quizizz is best suited for self-paced or asynchronous learning.

Pear Deck

Pear Deck (Pear Deck Inc., Los Angeles, CA, USA) is a communication platform designed for teachers to create interactive assessments and presentations for their students

Table 2 Interactivity software tools: target customer

Software	Who it's for
Socrative	Platform for institutions looking for effective on-the-fly assessments and engagement
Quizizz	Users looking for a gamified quiz learning platform Teachers in need of a dedicated question platform for formative assessments
Pear Deck	Education solution for schools and higher education
Slido	Event organizers, educators, and corporate trainers looking to elevate audience engagement in live events, webinars, and training sessions Those who prioritize real-time audience participation and feedback
Wooclap	Education institutions interested in a platform for managing their operations and students
ClassPoint	Educators who use PowerPoint and seek to make their presentations more interactive and engaging Those looking to integrate immediate feedback, gamification, and a variety of interactive elements into their presentations
Kahoot!	Educators who prefer a game-based approach to learning Those who seek an engaging, interactive platform that offers the flexibility of both live and remote learning environments
Mentimeter	It's an ideal choice for individuals who prefer to integrate interactivity throughout their entire presentation, as opposed to just at the beginning or end
Poll Everywhere	Those with diverse polling needs across educational and business settings It's particularly well-suited for presenters looking for a flexible, interactive tool to enhance engagement and gather immediate feedback

Table 3 Interactivity software tools: advantages and disadvantages

Software	Advantages	Disadvantages
Socrative	User-friendly detailed reports	Interface may appear less modern compared to others
	Add links and explanations to quiz questions	No gamification features
	Add multiple versions of the same quiz	Integration features are limited
	Auto-grading for all questions	Quizzes must be submitted in one go
Quizizz	Instant feedback mechanism	
	Autopaced mode for individual learning	Less focus on real-time presentations Limited real-time interaction: less suitable for live, interactive presentations
Pear Deck	Direct integration with presentations	Some advanced features require premium subscription
	Facilitates targeted questions and activities	Limited question types
	Seamless connection with Google tools for education	Cloud-based tool, Internet dependency
	Track student progress and comprehension	
Slido	Intuitive interface, participation analysis	Basic plan limitations
	Intuitive flow of information and questions	Limited options for question types and polls

Table 3 (continued)

Table 3 (continued)

Software	Advantages	Disadvantages
	Audience can upvote questions that are submitted to be answered by the presenter	Questions submitted cannot be deleted
	Seamlessly integration with presentation and video conferencing tools	Requires reliable internet
		Wi-Fi—not suitable if internet connectivity is an issue
		Complex setups challenging
Wooclap	Wide variety of interactive activities	Less known, may require time to become familiar
	Anonymous submissions for stress-free answering for students	Hard to help struggling students when submissions are anonymous
	Simple, quick-to-make questions	Monotonous visual design for questions
	Various question types for collaboration and higher-order thinking	
ClassPoint	Integrated seamlessly within PowerPoint	Requires Microsoft PowerPoint
	Intuitive interface	Only available for Windows
	Extensive quiz library	Currently only offers synchronous learning option
	AI-powered	Requires Internet to access quiz features
	Gamified tools that can be used with student devices or without	
	Detailed downloadable reports	
Kahoot!	Engaging for younger audiences, fun and interactive	Lighthearted approach may not be suitable for all situations
	4-choice MCQ question and other customizable question types	Students cannot change their answers after clicking
	Has a variety of quiz and game styles	Quiz only, few room to add additional information
	Fast-paced to keep students motivated	Requires to create and conduct quizzes outside of presentation software
Mentimeter	User-friendly, variety of question types	Some advanced features require premium subscription
	Anonymous submissions for stress-free answering for students	Challenging to assist struggling students when submissions are anonymous
	Simple, quick-to-make questions	You need to learn from scratch, as it is not integrated with familiar presentation tools
	Various question types for collaboration and higher-order thinking skills teaching	Visual design can be monotonous
Poll Everywhere	Integration with presentation tools	Higher price compared to some alternatives
	Has a variety of question options	Visuals can be bland, with no updating or editing available
	Has a wide range of ways for data viewing and analysis	Students can view submissions before submitting
	Students only need a web browser to join	Limited features in free version
	Seamless software integration	Learning curve for beginners
	Suits various audience sizes	Internet-dependent for responses

AI, artificial intelligence; MCQ, Multiple Choice Questions.

Table 4 Interactivity software tools: other features

Software	Integration with other software ¹	Asynchronous mode	Automatic grading (sort by correct responses)	Videos in questions	Free version ¹	Price ¹ (premium version)
Socrative	No	Yes	Yes	No	Free for up to 5 quizzes	\$120/year
Quizizz	Google Classroom	Yes	Yes	Yes	Free for up to 20 questions	\$19/month
Pear Deck	Google Slides and PowerPoint add-ins	Yes	Yes	Yes	Free for one presenter	\$149.99/year
Slido	Power Point, Google Docs, Zoom	Yes	Yes	Yes	Free for up to 3 polls per event	\$150/year
Wooclap	PowerPoint, Google Slides, Genially, Microsoft Teams, Moodle, Zoom	Yes	Yes	Yes	Free for up to 2 questions per file	\$60/year
ClassPoint	Directly into PowerPoint	No	Yes	Yes	Free for up to 5 questions per file; 5 questions per presentation; maximum of 3 saved classes; up to 25 students per class	\$96/year
Kahoot!	Microsoft Teams, Zoom	Yes	Yes	Yes	Free for up to 25 participants	\$108/year
Mentimeter	PowerPoint	No	No	No	Free for up to 10 participants	\$96/year
Poll Everywhere	Google Slides	No	Yes	Yes	Free for up to 25 participants	\$14.00/month

¹, main features and prices have been checked in January 2024. These conditions are subject to change.

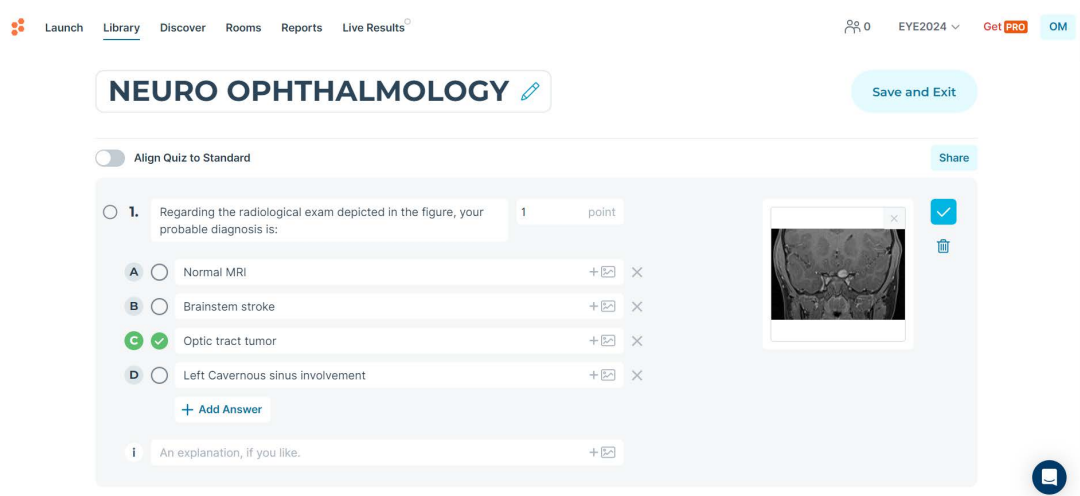


Figure 1 Socrative quizzes are relatively easy to create and allow for the inclusion of pictures and the selection of correct answers.

to engage with on their devices.

The software is specifically designed for Google Slides and integrates seamlessly with other Google apps, making it easy for educators to create and deliver interactive presentations to their students. Importing a presentation

from PowerPoint to Google Slides is possible but some formatting may be needed (*Figure 4*). Before importing videos from PowerPoint, they must be removed and uploaded individually to Google Drive.

Pear Deck allows for both synchronous and

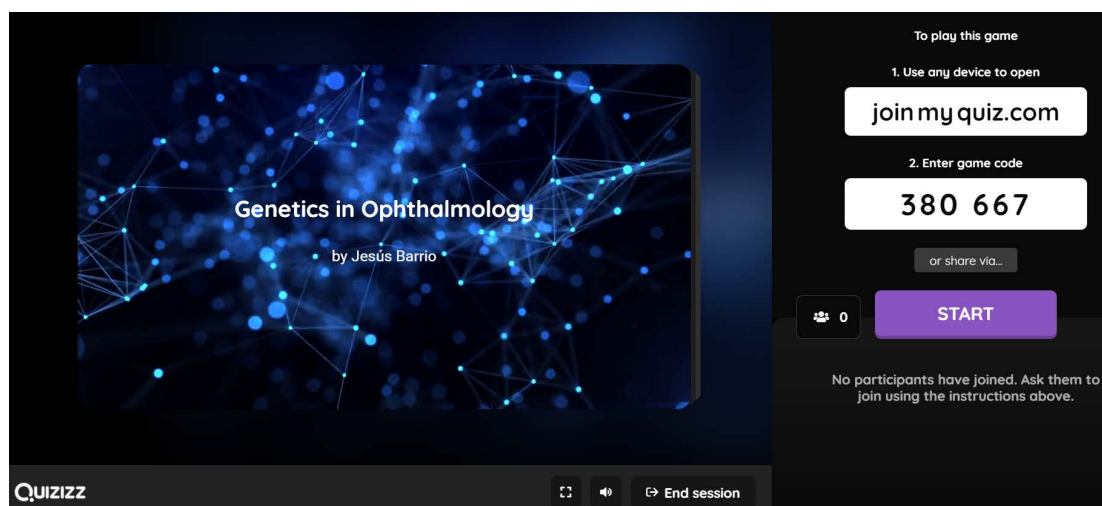


Figure 2 With Quizizz, quizzes, presentations, polls, and e-learning materials that can be accessed on any device by joining with an access code.

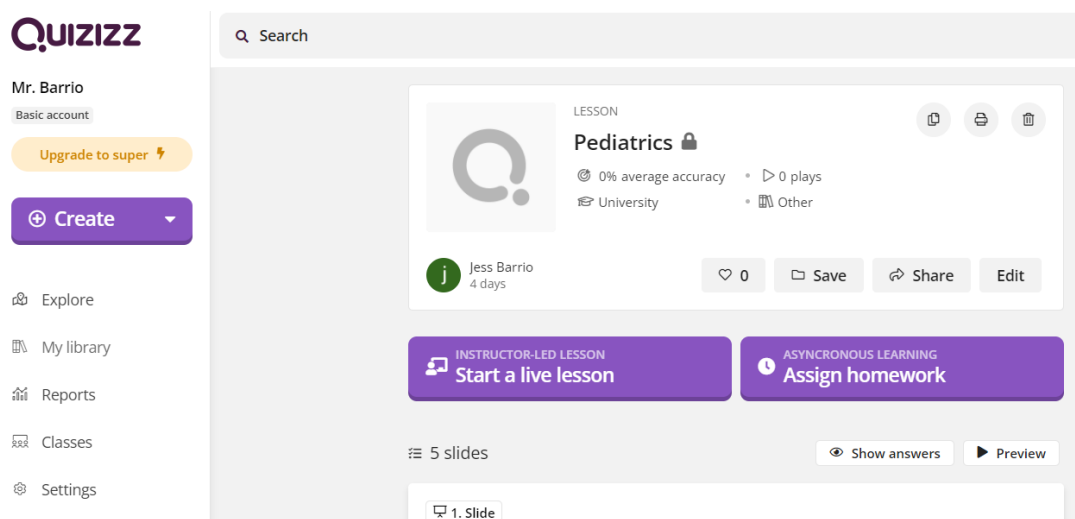


Figure 3 Quizizz can be used in three modes: synchronous teacher-paced, synchronous student-paced, or asynchronous mode, and includes a timer for each slide and question, with results provided at the end.

asynchronous activities, and teachers can track student participation in real time. Each presentation starts with an access code displayed on the screen, and students can access the Pear Deck website and enter their code to participate. During the session, the presenter will not need to switch between the presentation and the response screen. As the question slide appears on the projector screen, participants will also have access to the response options on their devices simultaneously (Figure 5). Pear Deck offers a range of interactive question types and allows for pop-up activities

and assessment tools to be added on the fly during the presentation.

Pear Deck offers both a free and paid version of its software. The free version provides educators with basic functionality, including access to Google Drive storage, Google Apps integration, unlimited presentations, three types of interactive question slides, and 30 session participants. The paid version provides additional functionality, including more interactive question types, the ability to import PDF and PowerPoint files, and access to

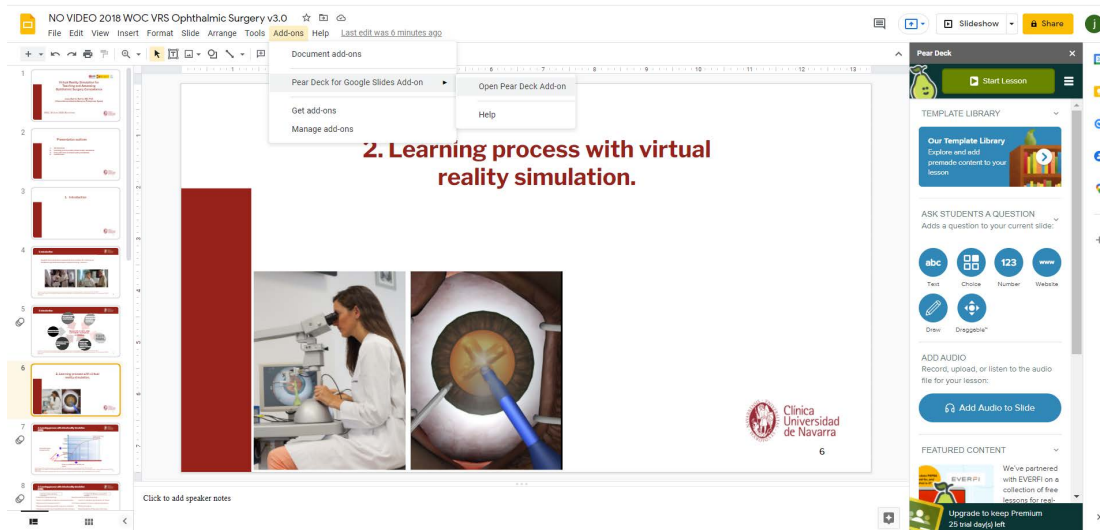


Figure 4 Pear Deck software is specifically designed for Google Slides and integrates seamlessly with other Google apps. Importing a presentation from PowerPoint to Google Slides is possible but some formatting may be needed.

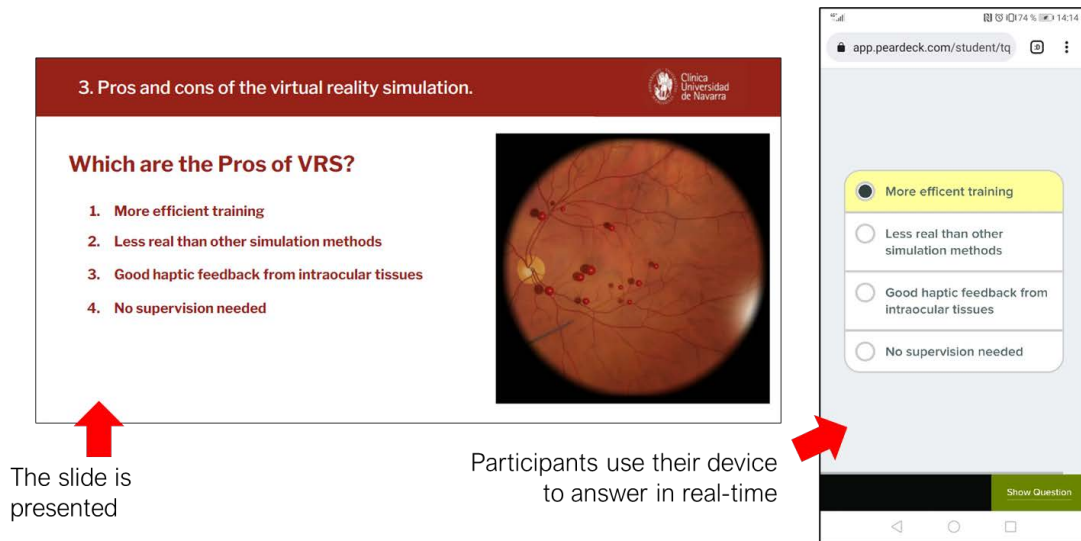


Figure 5 Pear Deck. As the question slide appears on the projector screen, participants will also have access to the response options on their devices simultaneously.

analytics and reporting tools.

Slido

Slido (Slido, Vajnorská, Bratislava, Slovakia) is a web-based software platform that offers a range of features to help presenters make their events more engaging and interactive. These include seven types of questions, including live

polls, question & answer (Q&A) sessions, quizzes, and word clouds. Participants can also submit questions, upvote questions from others, and respond to polls in real time, using their own mobile devices.

Like other audience interactive software, Slido enables presenters to get instant feedback from their audience. They can view the results of polls and quizzes in real time. Additionally, the Q&A feature allows presenters to answer

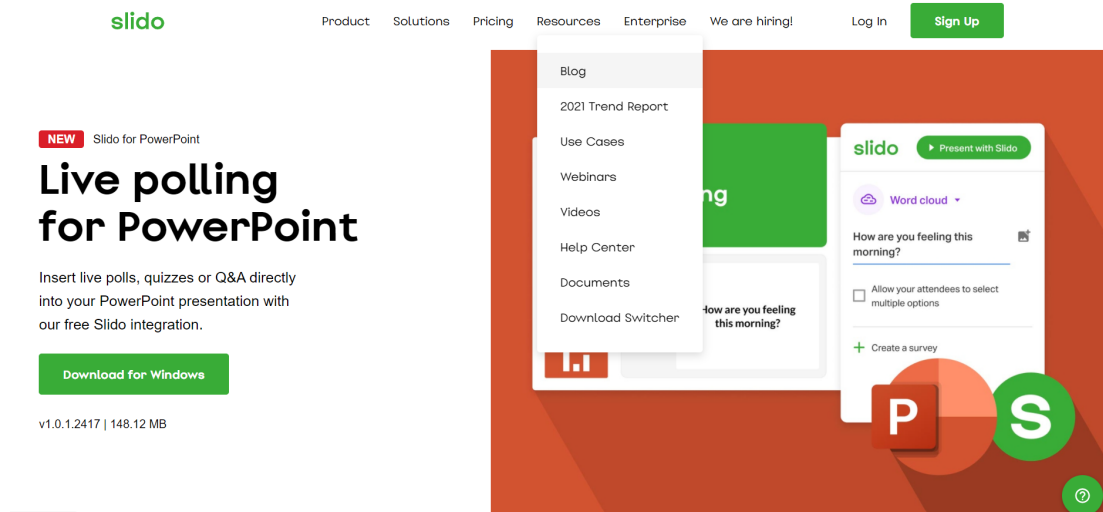


Figure 6 Slido is prepared for integration with other software (like PowerPoint and Google Slides). An interactive slide will be inserted directly into the presentation that will be shown on the audience's devices.



Figure 7 Slido will insert an interactive slide directly on your presentation that will be shown on your audience's devices. Your audience can join from any device scanning a QR code or logging into the presentation with a number code. QR, quick response.

questions from the audience without interrupting the flow of their presentation. Slido is easy to use and set up. Presenters simply create an event and add the interactive features they want to use. Participants can then join the event by scanning a quick response (QR) code or using a number code and start interacting with the presenter and other attendees.

Slido is prepared for integration with other software (like PowerPoint and Google Slides). An interactive slide will be

inserted directly into the presentation that will be shown on the audience's devices. So rather than switching between Slido and the presentation, both can be run with just one click and let the audience join from any device (Figures 6,7).

The free version of Slido offers basic interactive features that are suitable for small-scale events and meetings. These include live polls, Q&A sessions, and upvoting of questions. However, there are some limitations to the free version, such as a maximum of 100 participants and a limit of three

polls and 10 questions per event. The paid version of Slido offers more advanced features and is designed for larger events and conferences. Some of the additional features available in the paid version include unlimited participants, custom branding options, and the ability to moderate questions and comments. The paid version also allows users to create multiple events, store event data for extended periods, and access more detailed analytics and reports.

Wooclap

Wooclap (Wooclap SA, Brussels, Belgium) is an interactive tool that enables active student participation through its web interface. During sessions, participants can respond to a variety of activities and questions in real time using the message server. Educators have access to a user-friendly interface where they can create 17 different types of activities, including multiple-choice questions, word clouds, polls, open questions, and matching exercises.

One of the strengths of Wooclap is its ability to integrate with traditional presentation slides such as PowerPoint, Google Slides, and PDFs, allowing teachers to easily add interactive elements to their existing materials. Another important feature of Wooclap is its ability to provide real-time feedback to the presenter or educator. As participants respond to the interactive elements, their answers and feedback are instantly displayed on the screen, allowing the presenter or educator to adjust their presentation accordingly.

Wooclap is also designed to be user-friendly and accessible. It can be used on any device with an internet connection, and no additional software or hardware is required. Additionally, the platform is available in multiple languages, making it accessible to users around the world.

The free version of the tool supports up to 30 participants per session, has a limit on the number of questions that can be created per session, only allows for multiple-choice questions, and provides basic analytics on participant responses. A paid version is available for larger classes.

ClassPoint

ClassPoint, developed by ClassPoint SA in Singapore, specializes in augmenting traditional presentations by infusing them with interactivity, thereby enhancing engagement and dynamism. It caters particularly to educators aiming to streamline their teaching materials

within the familiar framework of PowerPoint, eliminating the need to switch to alternative platforms during sessions. This user-friendly accessibility transforms the process of integrating interactive elements into presentations, ensuring a smooth and hassle-free experience (*Figures 8,9*).

ClassPoint offers a range of eight diverse quiz question types, encompassing traditional formats such as Multiple Choice Questions (MCQ) and Word Clouds, as well as unique options like Slide Drawing and Audio Upload, thereby accommodating various learning styles. Furthermore, to simplify quiz creation, ClassPoint AI aids in generating questions based on slide content with minimal effort. With the simple addition of a question button to PowerPoint slides, audience members can swiftly submit responses in real time, earning stars and badges to encourage engagement. Moreover, the platform incorporates gamification elements such as leaderboard rankings, further enhancing audience motivation.

The free version of ClassPoint allows for up to five questions per file, with certain features restricted—such as storage for three saved presentations, and a cap of 25 audience members per presentation.

Selecting the ideal interactive presentation software

When faced with the decision of selecting an optimal interactive presentation software, several key considerations must be considered. These include factors such as ease of use, integration capabilities and the efficacy of audience engagement facilitated by each tool. It is imperative to contemplate how each tool aligns with your pedagogical approach and the specific requirements of your audience (10,11).

A comparative analysis of nine interactive software tools, encompassing their principal features, advantages, disadvantages, target user demographics, and integration capacities, is succinctly presented in *Tables 1-4*. If the content is already prepared in PowerPoint and the presenter seeks to enhance its interactivity, options such as ClassPoint or Slido are recommended, given their seamless integration with PowerPoint presentations. Conversely, for the development of new presentations, alternatives like Mentimeter, Kahoot, or Socrative warrant exploration.

For asynchronous learning modalities, Quizizz emerges as a viable choice. It is noteworthy that the remaining mentioned tools primarily cater to live usage scenarios, facilitating real-time insights and feedback. Should a pronounced emphasis on gamification be desired, Kahoot

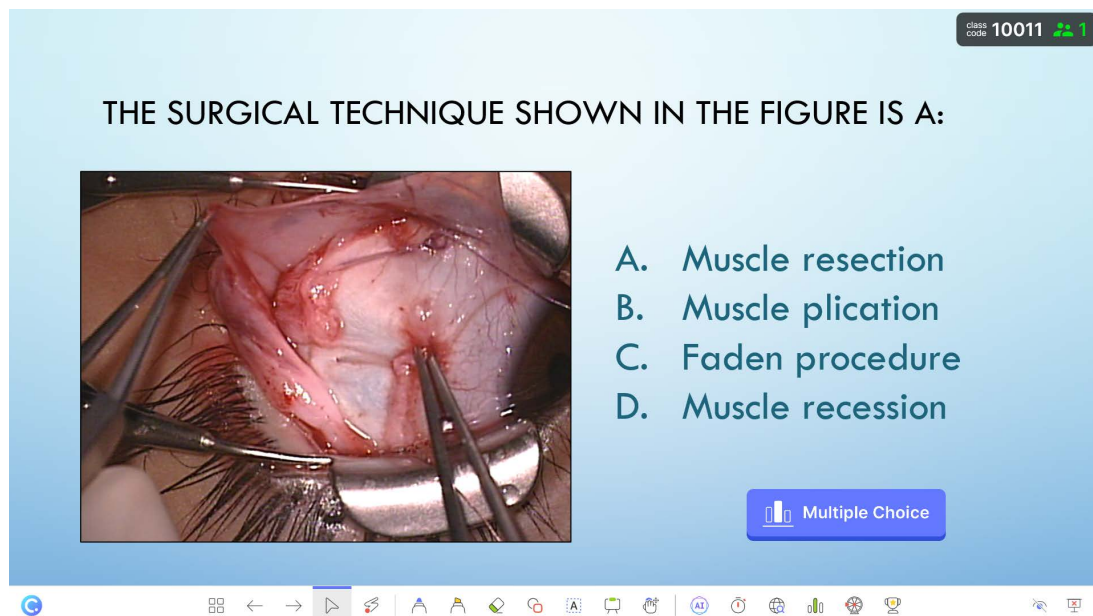


Figure 8 ClassPoint with the simple addition of a question button to PowerPoint slides, audience members can swiftly submit responses in real time.

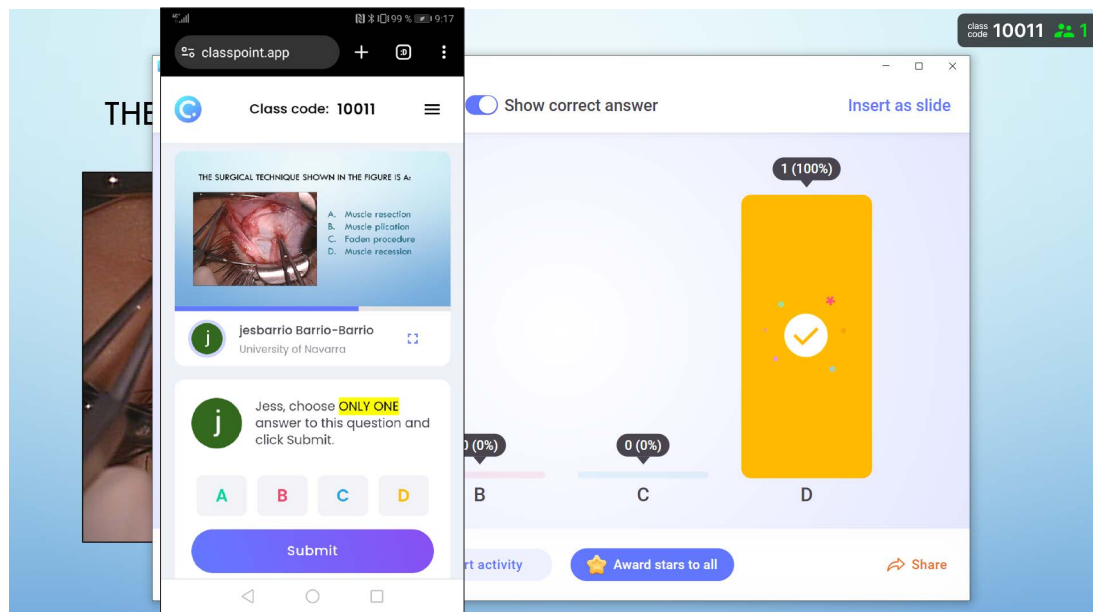


Figure 9 ClassPoint. The audience has the slide on their mobile phones along with options to answer the question.

stands out as a compelling selection. Alternatively, for a more balanced approach, the features offered by ClassPoint, such as the ability to award stars and display leaderboards, may prove advantageous.

On the other hand, if formative assessments and data

analytics assume precedence in your instructional objectives, options such as Socrative and Mentimeter may be better suited to your needs. It is pertinent to mention that all the aforementioned tools provide free trials or offer free versions, with many extending specialized plans tailored for

educational settings. It is advisable to capitalize on these trial opportunities to evaluate the suitability of each tool for your requirements before committing to a premium subscription.

Conclusions

While there have been studies comparing different interactive software platforms (7), it ultimately falls upon the presenter to choose the one that best aligns with their specific needs. Factors such as budget, integration with PowerPoint, video embedding capabilities, preferred type of interaction, and assessment tools for grading participants will influence the presenter's decision.

On the other hand, emerging technologies such as artificial intelligence (AI) and Cloud Computing are also revolutionizing medical education. AI holds promise in personalizing the educational experience by analyzing student data and providing tailored recommendations to meet individual learning needs. In medical education, this translates into intelligent tutoring systems that offer specific feedback based on student performance, identify areas for improvement, and customize course content to address each learner's requirements. Many of the interactive software platforms we currently utilize incorporate AI integrated methods. Cloud Computing is democratizing access to medical educational content, enabling students and educators to access interactive learning resources from anywhere, at any time. This fosters collaboration among institutions and healthcare professionals, facilitating the development of high-quality interactive content and medical simulations. Virtual and Augmented Reality, along with the Internet of Things, are also emerging technologies that are transforming the landscape of medical education. These technologies provide interactive and personalized tools that enhance engagement, retention, and learning effectiveness for medical students and healthcare professionals.

In conclusion, the use of interactive audience software in medical education has significant potential for improving participant engagement and learning outcomes. This software provides an effective tool for promoting active learning, collaboration, and self-assessment. Additionally, interactive audience software provides an effective tool for educators to assess student learning and modify teaching strategies to better meet the needs of the learners. This technology is readily available to both presenters and audience and can greatly aid in the learning process. As technology continues to advance, it is likely that the use

of interactive audience software in medical education will become even more prevalent.

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