Leveraging Interactive Learning by Integrated Assessment Software in EdTech: Enhancing Sustained Learning Outcomes with Mentimeter

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***Abstract*— The advent of Educational Technology (EdTech) has transformed traditional pedagogical approaches, introducing innovative tools that enhance engagement and learning outcomes. This paper explores the application of Mentimeter, an interactive presentation software, in educational settings. By integrating features such as live polls, quizzes and word clouds, Mentimeter fosters a more interactive and participatory learning environment. The study investigates how real time feedback and immediate assessment capabilities enable educators to adjust their teaching strategies dynamically, thus catering to individual student needs and promoting active engagement in learning. Additionally, the paper examines Mentimeter's role in increasing inclusivity and accessibility, allowing anonymous participation and accommodating both in person and remote learners. The analysis includes data-drive insights derived from student responses, highlighting the tool's effectiveness in improving student engagement, collaboration and overall learning outcomes. This research contributes to the broader understanding of how interactive presentation software can be utilized within the EdTech framework to enhance educational experiences and support data driven instructional practices. The findings underscore the potential of interactive presentation tools in digitizing modern education, making a compelling case for their widespread adoption in classrooms and beyond.**

***Keywords*—Classroom Assessment, Integrated EdTech, Mentimeter, Statistical Analysis, Pre-Class, SDG4**

I. INTRODUCTION

One of the key challenges in education is maintain student engagement. Traditional lecture-based teaching methods often lead to passive learning, where students may lose interest or struggle to stay focused. Educational Technology (EdTech) has significantly altered the landscape of education, offering tools that enhance traditional pedagogical methods. The rapid advancement of technology has led to the proliferation of EdTech tools, which are increasingly being integrated into educational practices. These tools offer innovative ways to deliver content, assess learning, and engage students. Interactive presentation software represents a significant shift towards more interactive and personalized learning experiences apart from saving hardcopy paper and thereby reducing carbon footprint. These tools offer innovative ways to deliver content, assess learning, and engage students with more interactive and personalized learning experiences.

TABLE I
GIVES A COMPARISON OF DIFFERENT EDTECH TOOLS.

Table 1: Usefulness of EdTech Tools

Sr. No.	Features	Mentimeter	Kahoot	Poll Everywhere	Slido	Nearpod
1.	Primary Function	Interactive presentation with live poll, quizzes, word clouds, ranking, scales, grid etc	Game-Based learning platform with quizzes	Audience response system with live polling	Live Q & A polls, quizzes and word clouds	Interactive lessons, videos, and assessments
2.	Real-Time Feedback	Yes	Yes	Yes	Yes	Yes
3.	Anonymity in Responses	Yes	No	Yes	Yes	No
4.	Ease of use	Simple interface	Designed for fun learning	Text Based	Focus on events and conferences	Complex
5.	Customization Options	Moderate	Limited	Moderate	High for events	High with media options
6.	Integration with other tools	Google slides, power point, teams	Google classroom, teams	Power point, Google Slides	Teams, Slack, Power Point	Google Slides, Teams
7.	Pricing Model	Freemium Basic free, Paid with more features	Freemium			
8.	Best Use Cases	Classrooms, meetings, workshops	Classrooms, training sessions	Conferences lectures, webinars	Conferences, events, classrooms	Classrooms, interactive lessons, remote teaching
9.	Audience Participation	Via Web Link or QR Code	Via Mobile app or web browser	Via Web Link or mobile app	Via Web link or QR code	Via Web link, mobile app, or QR code
10.	Device Compatibility	Web-based compatible	Web-based compatible			
11.	Focus	Interactivity	Gamification	Polling and Q&A	Q & A and Polls	Gamification of elements
12.	Scalability	Small to large	Small to medium	Small to large	Small to Large	Small to medium

Among these tools, interactive presentation software like Mentimeter stands out for its ability to foster engagement and participation. Also, Mentimeter's advantage lies flexibility, ease of use, ability to handle diverse and large audiences and its capacity to provide anonymous participation and real time feedback, making it a powerful tool for educators and presenters looking to create engaging and interactive experiences. Mentimeter creates interactive presentations that allows educators to create engaging presentations by incorporating various interactive elements such as live polls, quizzes, word clouds, and Q&A sessions. This software facilitates real time interaction between the presenter and the audience, enabling immediate feedback and fostering a participatory learning environment. This paper aims to explore the role of Mentimeter in educational settings, focusing on its impact on student engagement, inclusivity and learning outcomes.

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II. Literature Review

Literature review is carried out to examine how EdTech is utilized for classroom teaching-learning process with respect to digital tools like Mentimeter.

Teaching is a noble profession. The teaching pedagogies helps to teacher to deliver the lecture. As time passes the methods of teaching change from traditional to the digital form. The Covid has a impact on the various fields so educational field was not an exception to it. With Covid the use of technologies and software was compulsory in the educational field.

With the Covid Pandemic the introduction of online teaching learning process was introduced. The study, Al-Ansi (2022), made on the finding the characteristics of learning environment conducted and the need of use of new technology and importance of enhanced technologies for effective learning was emphasized.

After the emergence of online/ distance education various educational organizations developed their own platform for online education. Various platforms for digital education were invented and applied. A study on Moodle for blended learning was done where the impact of Moodle on learning of online courses was observed, Norambuena et al., (2021).

By the time various technologies were introduced to be used in education popularly known as Education Technologies. The Impact of these technologies on students must be considered. One of such Edu tech is AIR (Augmented Immersive Reality. It is used for improving performance of Chemistry students of 11th Class , Cen et al., (2020). This technology is useful for making audio, video, 2/3-D graphics, GPS data, etc. The survey is done on 45 students. It's seen that to make study more interactive, to improve understanding and to boost critical thinking this platform is helpful. Also, the learning of Chemistry turned into a fun with interactive experience.

Another study by Andrew et al., (2018), focused on the student's attitude towards the technology and their preferences for learning tools. This study was made on the university's students. 1102 students were part of the study. Both Qualitative and Quantitative study survey was conducted. Participants were happy and they were interested in learning new technology, and they think that it will be helpful for them in their future job. So, technology helps the students not in the classroom but also in their professional lives. But students are more comfortable with traditional plus modern method of technology. Making technology compulsory for faculty and students every time is not accepted by the participants. This study focuses on the need for the more research on each technology its effects in the learning s of the students.

Effective implementation of the digital platforms in the education system was a challenging task for the teachers .The paper by Tomczyk et al., (2024), discusses the these challenges in detail and the prominent results of the study were 1) The majority of teachers are not able to evaluate modern software because they do not use such teaching resources as like Mentimeter, Canva, Wordwall, Padlet, LearningApps, Kahoot, Coggle, Jamboard; 2) About 9.3% of teachers rate the listed software highly; 3) Most commonly teachers use and also rate highly: Canva, Wordwall, Padlet, LearningApps, Kahoot, Coggle, Jamboard, and Prezi; 4) Seniority and workplace does not always differentiate the evaluation of educational software.

The study was on the teachers' perspective for Mentimeter and analyzing the students' engagement in classes by Tarazi & Ortega-Martín, 2023). The study was that the students' engagement increases with the use of the Mentimeter. Mentimeter decreases the boredom and students actively participate in the online classes. The study of Palestine teachers also forces the importance of training for this platform to the teachers and students.

Another study conducted by Madiseh et al., (2023), focuses on the use of Mentimeter in learning of second language at university. Mentimeter records the response of the students, and these responses shows the results that students are highly motivated and autonomous for the learning of the languages. It helps to reduce absenteeism, but it also shows that using a Mentimeter does not have any significant impact on the final exam score. This again focuses on the need to go in detail study of the Mentimeter.

The use of interactive presentation tools has been shown to significantly boost student engagement in various educational contexts. Kohnke & Moorhouse (2022) discussed the effectiveness of Kahoot in gamifying learning in language classrooms, highlighting how the competitive nature of quizzes fosters increases participation and engagement among students. Similarly, poll everywhere has been utilized to enhance the learning experience through real-time feedback and audience interaction, as demonstrated in studies focusing on higher education Raju et al. (2021).

Mentimeter however provides additional advantages like anonymous participation, highlighted by Mayhew et al. (2020) encouraging more honest and open feedback from students who may be reluctant to participate openly. Also, it is found by the researcher that it increases both student and staff experiences in higher education settings. Pichardo et al. (2021) demonstrated Mentimeter's diverse features could be effectively used to address the challenges posed by COVID-19 pandemic, facilitating both in person and remote learning. Gokbulut (2020) compared the impact of Mentimeter and Kahoot on university students' e-learning experiences, finding that while both tools were effective, Mentimeter provided a more inclusive and flexible platform for various types of student's interactions. Wong & Yunus (2020) emphasized data-driven insights into student learning in writing vocabulary in an educational research context, demonstrating its effectiveness in improving learning outcomes.

Jensen et al. (2018) explored the effectiveness of three different pre-class content delivery methods that includes interactive tutorials, video lectures, and textbook-style readings. The study found that while video lectures provided a slight advantage in overall learning, all three methods supported significant learning gains when combined with in-class active learning activities. The research emphasizes the importance of pre-class preparation in a flipped classroom model and highlights the need for further exploration of optimal content delivery strategies.

Chi & Wylie, 2014 provides a comprehensive theoretical model that categorizes student engagement activities into four distinct modes: interactive, constructive, active and passive (ICAP). The framework posits that cognitive engagement increases as students' progress from passive to active, constructive, and ultimately interactive behaviors with corresponding improvement in learning outcomes.

In nutshell, combination of anonymity, versatility and data driven insights makes it a superior choice for fostering inclusiveness and dynamic learning environments, apart from ability to integrate seamlessly with existing educational technologies as a EdTech landscape. Parameters like sustained influences, user friendly interfaces, versatility in use needs research and accordingly classroom teaching framework with Mentimeter needs to be created.

III. Development of Mentimeter Framework

A framework is required to give structured guidance and consistency to achieve objectives of learning mentioned above. Framework offers a structured approach to solve complex issues in implementing processes ensuring that all necessary components are considered and organized systematically for reliable outcomes. Following sections present the structed framework for effective implementation on mentimeter.

3.1 Joining Instructions

Classroom teaching learning is time bound and requires teachers' effort to collaborate all students instantly to save time and complete instructions planned. It is observed that distant

Fig. 1. Joining by Code and QR

students from smartboard couldn't access QR code, for which Mentimeter code referred in the fig.1 is also required to be mentioned for ease. All slides also contain feedback and a Q&A tab for promoting critical thinking. Teachers appreciate students who critically ask questions, beneficial to all students.

3.2 Review of Learning Outcomes in Previous Lecture through Word Cloud

This ensures linkage of before upcoming session to attain the skills intended. It also engages the student and reinforces the lecture content. Word Cloud, fig.2 ensures collaborative discussions ensuring accountability and responsibility. The bigger fonts represent data driven insights intuitively and facilitate key concepts and understanding.

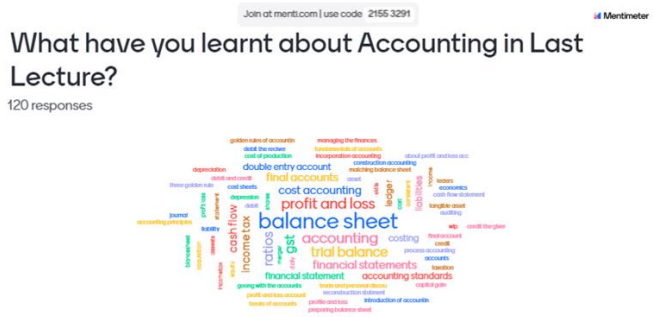

Fig. 2. Learnings from the last lecture

3.3 GIF/Image/Video Slide with content

Graphics interchange format (GIF) format supports animation images and comparatively smaller size files making it easy to load and share, conveys information quickly and effectively while narrated by teachers. Students' liveliness created in 3.1 and 3.2 will be sustained and helps in recalling concepts. Attention span of students lasts long for not more than 10 mins and addition of case studies, real life examples ensure its effectiveness.

3.4 Quiz (=Reflection Spot)

A quiz embedded after 3.3 enhances retention, increases engagement apart from encouraging metacognition to make participants aware of their own learning processes and strategies. This helps learners to pause and think critically, Cen et al. (2020),about what they learned as shown in fig.3 As the result is quickly displayed in mentimeter into the login devices of students, students can see how they rank compared to others,

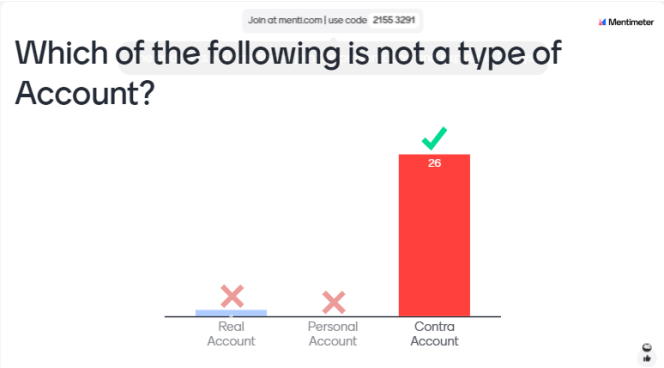

Fig. 3. Quiz with correct and wrong options (Visibility)

motivates them to participate more actively.

Quiz leaderboard provides data driven insights like identifying knowledge gaps, tracking progress and analyzes where participants need additional support. It also boots fun and enjoyment. It creates positive reinforcement and self-assessment as demonstrated in fig 4, while adding value for better learning outcomes.

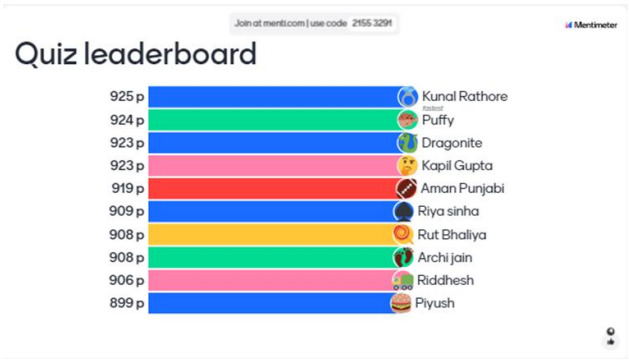

Fig. 4. Top respondents of Quiz with time taken to respond

3.5 Open Ended Question

Open ended question helps in gathering detailed feedback, deeper reflection amongst students. It provides opportunities to give more nuanced and personalized answers depicted in fig 5, while perspectives are captured through beyond predefined answer choices. It is found that it fosters peer learning, shared learning and versatility with customization is enhanced. It is recommended that; teachers should read interesting responses and identify the student who had given this response for appreciation in class. Data Drive appreciation in class motivates learners in a big way and helps them to answer concisely. Also, teachers found it good connection with students and a learning

Fig. 5. Responses for open ended questions

trust get developed. Apart from idea generation it also acts as icebreakers helping to overcome monotonous learning styles.

3.6 2x2 Grid

2x2 grid, fig 6 helps to categorize ideas, assess options and visualize data along two axes. It makes students learn, strategic planning, prioritization and decision-making exercises.

Complex data driven exercises can be structured by breaking into elements and help in focusing on what matters most and decisions based on collective inputs.

3.7 Pin on Image

Pin on image feature allows students to place pins on image to indicate specific points of interest, respond to visual based activities and gathering spatial data, making activity more

Fig. 6. 2x2 Grid Question's responses

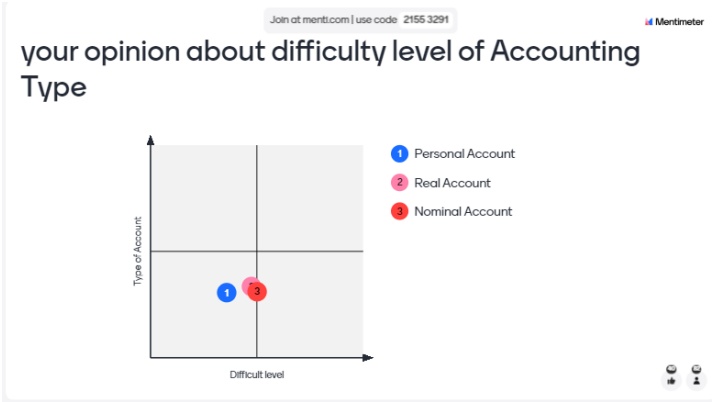

Fig. 6. 2x2 Grid Question's responses

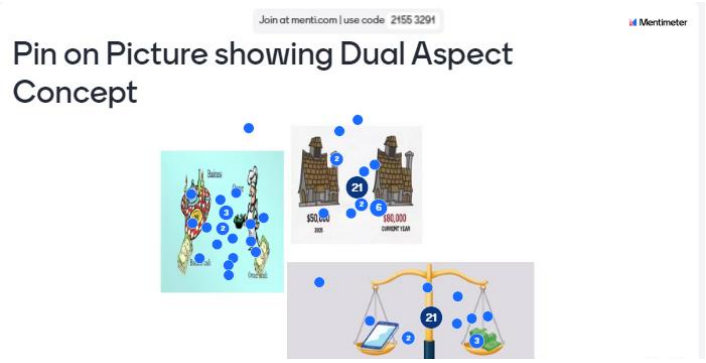

Fig. 7. Responses on Pin on image

engaging and dynamic. Multiple students can pin on the same image as demonstrated in fig 7, simultaneously allowing for collective input and making it easy to arrive at common areas of interest. The pins appear in real time making it easy for everyone to see and conduct group discussions. This helps students to facilitate informed discussions and better decision-making abilities.

3.8 Q & A Type

"Creating question is learning twice". Creating questions enables real-time interactions, encourages open dialogues, improves understanding and ensures that everyone's voice is recorded reflected in fig 8, It is observed that students' communications enhanced along with learning satisfaction. As the questions can be queued and answered in batches, time is not wasted on less pertinent issues. Questions can be reviewed even after the session to analyze common themes

or recurring concerns, which can inform future content or sessions.

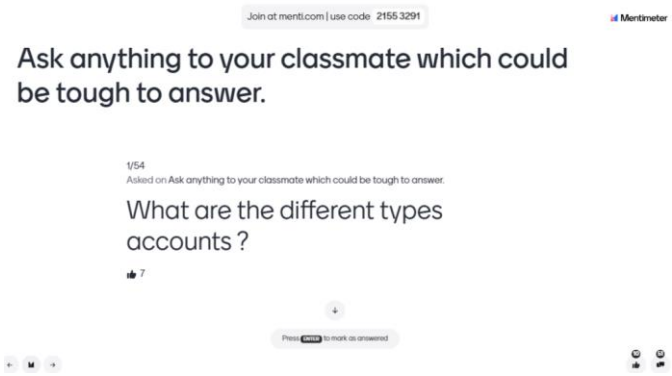

Fig. 8. Questions framed by the students

3.9 100 Points

100 points feature is a powerful tool for interactive vote prioritization and decision making. Students are allowed to distribute a total of 100 points across multiple options, giving insights into their preferences or priorities demonstrated in fig 9.

Fig. 9. Weightage by the students to each option

It is observed that students feel part of decision making and felt power to prioritize. Instead of choosing just one option, participants can allocate points, reflecting relative importance to create nuanced feedback.

3.10 Scales

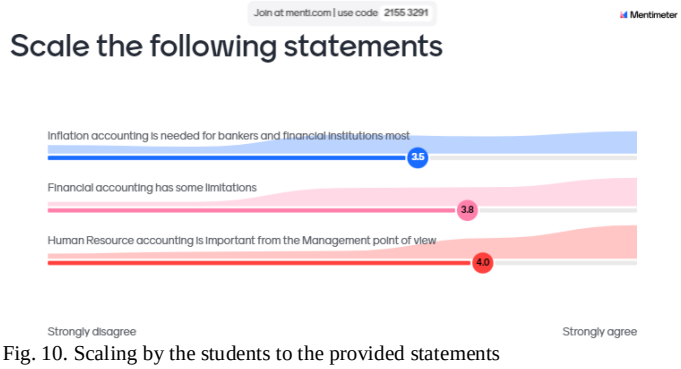

Fig. 10. Scaling by the students to the provided statements

Feedback on continuum with a more nuanced understanding of opinions, preferences, or attitudes is possible with these scales' features shown in fig 10, which can be used to demonstrate surveys, evaluations and decision-making processes. This gauge varies degrees of agreement with detailed feedback. Students' preferences, attitudes and experiences, enabling more students to get deeper insights on their own preferences. What matters most can be easily arrived at with this feature

3.11 Ranking

This feature enables participants to rank a list of items with their preferences or perceived importance. This feature is found useful in situations where students need to determine the collective preferences of a group or establish a consensus on the relative importance of various options. It helps to provide clear hierarchical preferences reflected in fig 11, making it easier to see which options are most valued by the group. Engagement and interactions provide active participation and inclusive feedback to facilitate consensus with customizable options. It is observed that he helps students to make decisions aligned with the group's priorities.

Fig. 11. Ranking by the students with their performance

3.12 Guess the number

It offers a fun and interactive way to engage students during a presentation or event. Specif numbers are guessed to reveal the correct answer, creating an exciting and competitive atmosphere highlighted in fig 12. It is observed that students learn quantification with competition. Guessing the number reinforces learning providing educational value and helps in memory retention process. Also, it helps teachers to captivate students and make sessions memorable.

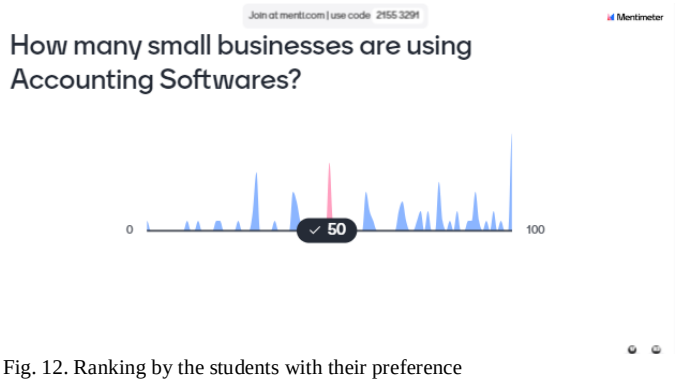

Fig. 12. Ranking by the students with their preference

3.13 End Quiz Leaderboard

At the end of class or session, students can see the top 10 achievers through quiz leaderboard as shown in fig 13. This feature helps students to integrate sense of competition and payoff for their learning interest demonstrated. It also helps teachers to identify advanced learners and get their help in mentoring slow learners through practice of peer learning.

It is observed that students find maximum interest for sustained learning and attain highest interest in learning. Fastest correct answer builds sense of time bound, efficient and effective learning portfolios, enhancing employability with respect to competitive exams. Give your best, fostering immediate feedback with healthy competition and interactive events is found to be highly useful during sessions and students interact more with more active engagement, Tarazi & Ortega-Martín (2023), in upcoming classes.

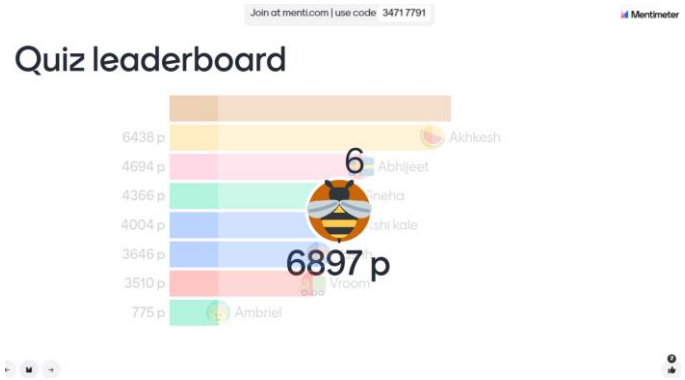

Fig. 13. Leaders of the Quiz in a classroom session

IV. Mathematical/Statistical Modeling to Analyze Participants Response

Mathematical modeling enables deeper understanding of participants responses, predict outcomes and optimize future sessions. The following section details mathematical modeling.

n_i = Number of students selection option i (for multiple questions)

s_j = Score for students j (for quiz score)

t_j = Time taken by students j to respond.

The average score

Mean score $= \frac{1}{N}\sum_{j=1}^{N} s_j$ …… (1)

Standard deviation is the measure of variability of the scores.

$\sigma = \sqrt{\frac{1}{N}\sum_{j=1}^{N}(S_j - Mean\ Score)^2}$ …… (2)

Proportionate of responses for each option i

$p_i = \frac{ni}{\sum_{k=1}^{m} n_k}$ …… (3)

where m is the total number of options.

Participants behavior can be modeled by using a logistic regression model to predict the probability of participant selecting a particular option.

Let xi be the features like time of response, previous scores, etc.

The probability $P(y=1|x_i)$ that a student selected a particular option

$P(y=1|x_i) = \frac{1}{1+e^{(\beta_0+\beta_1 x_i)}}$ …… (4)

Where β_0 and β_1 are parameters from data.

Simulated Response = random $(P(y=1|x_i)$

Maximize f(x) = Mean Score subjected to $g(x) \leq 0$

Simulated score = $\mu + \sigma$ x random_normal ( )…… (5)

V. Results and Discussion

Mentimeter generates a unique code known as the Menticode for joining the classroom integrated with Mentimeter website (menti.com) to join. The code helps to distant students to join the class hassle free. (figure 1) Students can also visualize presentations on smart board with their personalized devices like mobile phones, which will enable both individual and group learning. It is observed that those students who were hesitant to share their views publicly, openly also feel satisfied that their voice is noticed, and their nuanced feedback are taken care of (Figure 2). For larger classrooms, it helps teachers to engage large audiences interactively, regardless of whether they are attending in-person or virtually.

A significant feature of Mentimeter is Mentimote, allows teachers to present and change their slides remotely managing flow of presentations in more engaging ways.

It enables teachers to promote settings for seeking questions from audiences, seeking their real time feedback, ensuring that all stakeholders are in sync with less distraction and establishing personal connections with learners. (Figure 3) The inclusive of speaker notes across slides helps instructor to

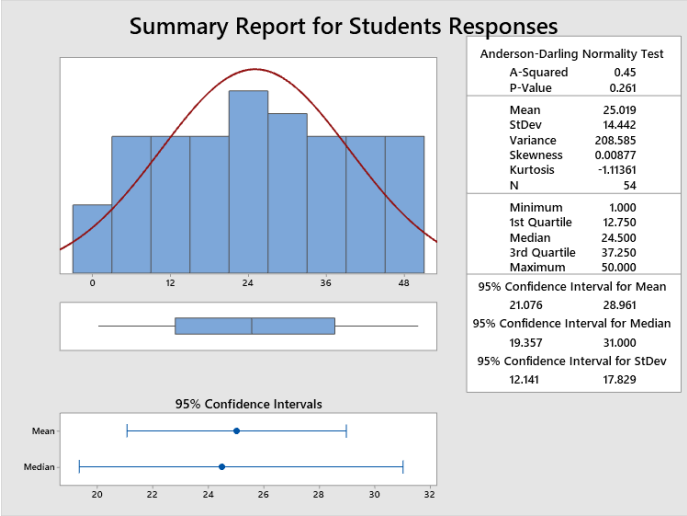

Fig. 14. Responses of Class without pre instruction

reinforce points of contemplation, bound vital to be addressed in classroom.

The visibility and liveliness of wrong responses can be used by teachers to create proper understanding It boosts the curiosity among the students that where they went wrong and what is the

correct and how. So in general learning process becomes more interactive.

Responses of 50 students of 1-hour session were analyzed and presented in graphical summary as per following fig 14.

The histogram suggests that the number of students active during the session is relatively evenly distributed with slight concentration around the middle range of 24 to 36 students. The fact that mean 25.019 and median 24.5 are close to each other indicates that the distribution of active students is fairly symmetric and total engagement level is excellent for 25 students, Tarazi & Ortega-Martín (2023). The standard deviation of 14.442 indicates a moderate spread in the number of active students, suggesting that the engagement level varies somewhat but is generally consistent. The minimum and maximum values (1 and 50) show that there are sessions with very low (Only 1 student active) and very high (up to 50 students active) engagement, suggesting variability in how different sessions might engage students. The first word of the teacher in class was acted immediately by one student and later it was increased to maximum level. The 95% confidence interval for the mean 21.076 to 28.961 suggests that average number of active students in a session is likely to fall within the range. This range is relatively narrow, implying that future sessions are expected to have a similar level of student engagement. The P-Value of 0.261 from the Anderson-Darling Normality Test indicates that the number of students active in the session, follows a distribution that does not significantly deviate from normality. This means that the data likely represents typical engagement patterns, without extreme irregularities. Since the engagement level is mostly concentrated around 24-25 students, with some variability, session planners can anticipate a reasonable number of active participants in each session. They might prepare for this typical range, while also being ready for fluctuations between very low and high engagement values. The data shows a moderate and consistent level of student activity during one hour session with typical active engagement around 24-25 students. There is some variability as on 1st second of instructions, 1 student was active which is a good sign from the class side. In the next session, this is found to be increased to 15 students as was anticipated by students from previous experiences. Data driven insights strategies like pre class instructions on WhatsApp group has increased active students' participation from 1st second onwards in class.

The following figure 15, shows improved data analysis after including pre class instructions to be followed in mentimeter integrated next class session.

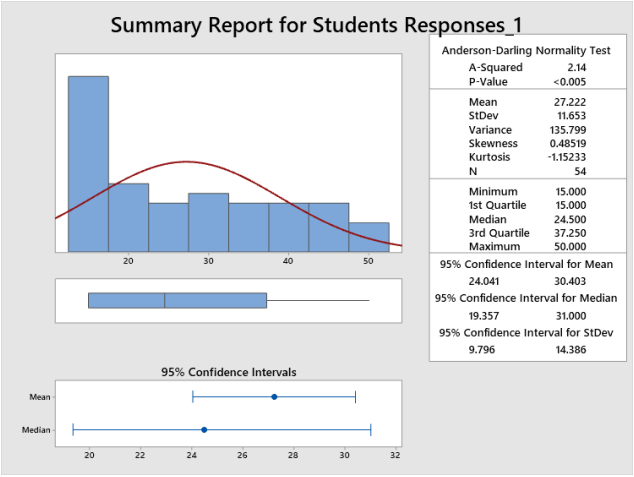

Fig. 15. Responses with Pre-Instructions

The improved graph shown in figure 15, depicts statistical improvement by more effectively visualizing key measures like the mean (25.019) and median (24.5) with standard deviation (14.442) and a confidence interval (21.076 to 28.961 for the mean). It better highlights outliers and provides a clearer indication of data symmetry and normality, supported by a P-Value of 0.261. This indicates that the P-Value could be visually supported by the curve, showing that the data doesn't significantly deviate from normality. The shaded are around the mean clearly indicates the 95% confidence interval, showing that true mean is expected to lie between 21.076 and 28.961, highlighting more precision of the mean estimate. The improvement graph better presented the symmetry of the data, possibly by showing both skewness and kurtosis values (-1.11361) visually, making it clear that the distribution is fairly flat and symmetric. Spread of the data through enhanced error bars or a more accurate depiction of the distribution's width, making it easier to visualize that most data points fall withing one standard deviation (±14.442) from the mean. The mean and median indicate nearly symmetric distribution, which makes learning easier to perceive. The pre-class instructions added value to instruction design significantly as it provides foundation to engage students in actual classroom. It is observed that Pre-class instructions help students understand the objectives and expected outcomes of the upcoming class and, they communicate this effectively to their peers, making the work of teacher easy to achieve intended learning outcomes. Providing details of joining instructions ahead of classroom, helps them manage more impacting parameters like arrangement of desks, mental preparations, learning materials ready well in advance, less settling times, battery recharging, recalling previous concepts etc. Familiarizing students with the content beforehand help reinforce learning and solidification of improved retention. Pre-Class instructions helped students to get directed to review specific topics or concepts that will be emphasized in class. Students who prefer to process information visually or through reading can benefit from pre-class instructions, to adjust the engagement, in a way that suits their learning styles.

This also helped to achieve improved flipped model

implementation, freeing up in class time for more interactive, hands-on activities. This approach enhances learning by allowing students to apply concepts in a collaborative learning environment, guided by instructor. Also, it is observed that, by preparing in advance, students come to class with their scripted doubts, seeking help of their peers or instructors, thus promoting self-learning, which is of high importance in view of implementation of National Education Policy (NEP 2020) to promote critical thinking and experiential learning. It is also noticed that, even if it feels that less time is spent of basic concepts, but the application-based studies, on contrary, reinforces basic learning concepts and reduces redundancy in explanations, enabling the instructor to focus more complex or advanced aspects of the subject.

Conclusion

The study highlights the significant impact that interactive presentations software of EdTech, especially Mentimeter, has had on enhancing student engagement and learning outcomes in educational settings. By incorporating features such as live polls, quizzes, word clouds, and other interactive elements, a participatory learning environment is fostered, which caters to the diverse needs of students, including those participating anonymously. This inclusivity has been shown to enhance engagement, encourage honest feedback, and support the real time adaptation of teaching strategies.

It is noted that Mentimeter's ability to provide immediate feedback and facilitate dynamic interactions makes it a valuable tool for both in person and remote learning environments. The tool's flexibility, ease of use, and scalability have allowed it to handle diverse and large audiences effectively, making it an essential resource for educators aiming to create engaging and interactive experiences.

The mathematical modeling employed to analyze and better understand the responses of the participants during the sessions using Mentimeter provides futuristic decision-making for more versatility and accessibility.

To add on, the integration of Mentimeter into educational practice has been observed to lead to improved learning outcomes by promoting active participation and data-driven instructional practices. The framework proposed for the effective implementation of Mentimeter in classrooms is designed to optimize the tool's benefits, ensuring that all necessary components are systematically organized for reliable outcomes.

The inclusion of pre class instructions like joining Mentimeter with code or QR code, helps students to gather their attention span and active engagement in learning, from every first minute of classroom session effectively. This helped in achieving higher order thinking activities during the class.

Overall, the potential of Mentimeter and similar interactive presentation tools to transform traditional education into more engaging, inclusive and data-driven experiences is underscored. This led to compelling cases being made for the widespread adoption of such tools in modern classrooms to support enhanced learning experiences and outcomes.

One of the limitations of the Mentimeter is discussed in the paper that without prior instruction it will not give us the expected results. The Mentimeter is easy to use and interactive way of teaching and learning. In qualitative studies as well as for theory base we can use it effectively where for numerical papers and questions it is somehow challenging to frame the questions and to get the proper answers.

Further research can be conducted on use of Mentimeter EdTech in various levels of Education like effectiveness and challenges at primary, secondary or higher level. How it can be customized at different fields of studies like Engineering students, Language students etc. The direct relation of Mentimeter with course outcome could be considered

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