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The Malaysian English Language Teaching Association
Corresponding Author:
Noor AlHusna Madzlan nooralhusna@fbk.upsi.edu.my

The Use of Mentimeter Application in Teaching and Learning Process to Accommodate Different Learning Styles in an Online ESL Classroom

Noor Alhusna Madzlan
Faculty of Languages and Communication
Sultan Idris Education University, Malaysia

Lim Shu Hui
Faculty of Languages and Communication
Sultan Idris Education University, Malaysia

ABSTRACT

The sudden outbreak of Covid-19 pandemic in 2019 resulted in the transition from face-to-face classes to online lessons. However, some of the online tools are not suitable to be used in online ESL classrooms due to the inability to accommodate different students' learning styles. The aim of this research is to study how Mentimeter can fulfil this requirement and the learning theories included. The survey on perception of pre-service ESL teachers after using Mentimeter has been assessed with a questionnaire and it is proven from the results that Mentimeter is able to accommodate different learning styles due to its various features. The study also takes a theoretical approach to analyze the Mentimeter features and the students' learning styles, hoping that this research can enhance both teachers' and students' teaching and learning experience. The study has demonstrated that Mentimeter is an ideal educational tool with the support of pedagogical reasons. Therefore, more support should be provided by MOE to teachers as to ensure assessment for learning is practised widely by English teachers in the nation.

KEYWORDS: Mentimeter, online tools, online ESL classrooms, learning styles

Introduction

When the Covid-19 pandemic first started in the end of 2019, most of the people thought that it was only temporary and it would pass in no time. However, the situation got out of hand as the pandemic spread. Prolonged lockdown results in event cancellations, large-scale layoffs and most importantly, school closures in this context. The students could not go to school during the lockdown as all in-person classes were cancelled. As a consequence, the students were forced to take a break from study while waiting for the authorities to make a decision. The pandemic then

rushed the transition of offline classes to online classes, despite the school, teachers and parents were not fully ready. The teachers, including the experienced ones, had to learn how to teach on online platforms from scratch. Some innovative teachers chose to utilize online tools, such as Mentimeter, Kahoot and Quizlet, to enrich the online learning experience.

Mentimeter is an Audience Response System (ARS) or Student Response System (SRS) that has 13 interactive question types which the presenter can utilize to interact with his or her audience. Out of the 13 interactive features, the most popular feature of Mentimeter is Word Clouds. It is a feature which allows the audience to submit word inputs using their device and a word cloud is generated. The font size of the words is adjusted according to the frequency of the words being submitted. In other words, the word that is added most frequently by the audience will be displayed with the biggest font size. This feature can help the presenter or the teacher to collect data from his or her audience in a shorter time. The most common answers can be shared and presented instantly on screen to be discussed further. In this paper, the positive impact of using Mentimeter application in teaching and learning process to accommodate different learning styles in online ESL classrooms is discussed.

Mentimeter application is an application that stores its data in the cloud, therefore no download or installation is required in order to use the application. The presenter first has to set up the presentation on the website www.menti.com and share the 6 digits code to the audience. The other option for the audience to access the presentation is by a unique QR (quick response) code generated. The 6 digits code and QR code aredisplayed on the first page when the teacher shares the screen during an online class. The audience then can respond to the questions in Mentimeter anonymously and the number of people who have responded are reflected in the lower right corner of the page. After the class, the teacher can download the outcome in pdf or Excel format, allowing them to evaluate the performance of the students and improve the next lesson plan based on the feedback collected.

The use of Mentimeter in an online ESL classroom can create an active learning environment and not just teacher-led presentation (Alexander, 2008). The teacher could also use Mentimeter to ask questions to the students to assess their learning progress. In education, assessment plays a bigger role than teaching (Gibbs & Simpson, 2005). Besides, the teacher could use Mentimeter to improve their teaching based on the feedback from the students (Elliott, 2003).

Chickering and Gamson (1987) suggested that good practice in education encourages student-faculty contact, encourages cooperation among students, encourages active learning, gives prompt feedback, emphasize time on task, communicates high expectations and respects diverse talents and ways of learning. Students learn faster and better when they can apply the knowledge to their daily lives. The students are required to share their own ideas on Mentimeter and this deepens their understanding. In addition, the prompt feedback that was suggested by Chickering and Gamson (1987) is also applicable in this context. In an online ESL classroom, students need appropriate feedback during the lesson to be able to improve themselves constantly. Therefore, SRS provides ample opportunities to achieve the learning objectives.

While previous research has mainly focused on students' opinions of using Mentimeter, we did not have much information on the tendency and perspectives of pre-service teachers on using

Mentimeter in an ESL classroom. We also wanted to know how the features of Mentimeter can accommodate different learning styles for different students during online learning. The focus of this study is how the use of Mentimeter application can accommodate different learning styles in an online ESL classroom. This study is carried out to observe how Mentimeter application can be used in an online ESL classroom. The researchers tried to study how Mentimeter is different from other online educational tools and can bring impact to students of different learning styles in an online ESL classroom by reviewing the pre-service teachers' feedback.

The research objectives are to observe:

a) the use of Mentimeter application in teaching and learning process to accommodate different learning styles in an online ESL classroom; and
b) the pedagogical theories and advantages of using Mentimeter application in an online ESL classroom.

The scope of this research focuses on the feedback of pre-service ESL teachers that have used the specific SRS, Mentimeter application during their two months online apprenticeship.

Literature Review

Even in a classroom where all the students have similar academic performance, it is worth noting that each and every student has different learning styles. In other words, the students have their preferred ways to learn. Some students are auditory learners, some are visual learners, some are kinesthetic learners and some are reading and writing learners. Auditory learners learn better by hearing and listening. The common characteristics of an auditory learner include good speaking skills, strong listening skills and they are easily distracted by background noises in general. Visual learning is a type of learning style in which the students prefer to learn by using images, graphics and colours. The common characteristics of a visual learner include good object visualization, colour-oriented and understands best when they get to see the information. Kinesthetic learners are learners who need to be actively engaged or touch the materials in order to learn better. The common characteristics of a kinesthetic learner include poor spelling skills and they tend to solve problems by physically working through them. As for reading and writing learners, they prefer to learn new knowledge by reading notes and textbooks. The common characteristics of reading and writing learners are they are comfortable with the written texts and find rewriting notes effective in their studies.

Online English as a Second Language (ESL) classrooms can be defined as lessons that are conducted through virtual classrooms instead of traditional classrooms. From a technology-driven standpoint, Guri-Rosenblit (as cited in Sangrà et al., 2012) defined online learning, or e-learning as "the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classrooms to full substitution for the face-to-face meetings by online encounters". Guri-Rosenblit' definition is rooted in the perspective of conventional education that has been long-established and integrated into society. Online learning, at this point of time, is only seen as an inferior alternative compared to the traditional classroom setting.

Chickering and Gamson (1987) suggested that good practice in education includes ‘‘encourages active learning’’ and ‘‘gives prompt feedback’’ and these practices can be achieved by using Mentimeter in an online ESL classroom. Mentimeter simulates interaction and offers teachers an insight of the students' understanding to the lesson taught. The findings from Wong (2016) and Funnell (2017) also proved that the students are more engaged when they can use portable devices in lectures or classes to gain real time feedback.

Mentimeter Application is an audience engaging platform which allows the presenter to interact with the audience with easy-to-use features. Some of the key features include collecting opinions, data and polls from the audience through smart devices, generating insightful data reports based on the response received and building interactive presentations easily with the presentation builder. The presenter can create interactive presentations with the 13 interactive question types in the application and more than one question type can be used in every presentation. The presenter can share the presentation code to give access to the audience and interact with them real time. It is a great application to be used for ice breaking sessions, checking knowledge and collecting opinions. There are different packages available but the teacher and students can enjoy the complimentary package for basic use.

Teachers can create interactive presentations on Mentimeter with the existing 13 features such as Word clouds, Quizzes and Polls. The teacher can choose the feature that fits the lesson of the day the most or combine more than one feature for the presentation based on the needs of the students. Moorhouse (2017) mentioned that the features of Mentimeter makes it easy for teachers to solicit students' opinions. This is especially important in an online classroom as it facilitates classroom management. Teachers can also plan and structure the following class based on students' feedback. In a study carried out by Cheung et al. (2018), the university teachers think that Audience Response System (ARS) such as Mentimeter facilitates class management, promotes teacher-student interaction and fosters formative assessment when using it in their practice.

One of the advantages of using Mentimeter in an online ESL classroom is that it simulates interaction between the teacher and the learners and among the learners themselves. A study carried out in Norway (Almendingen et al., 2021) showed that the students required greater effort to stay motivated in the online class and student response systems such as Mentimeter, Kahoot!, Padlet and so on and so forth were the motivating factors. This approach made it easier for them to follow the lesson in an online classroom. Next, using Mentimeter in an online ESL classroom also increases the attendance rate. Mentimeter increases the level of fun into lessons and encourages the students to be involved in the lesson. The anonymous feature also allows students to feel safer and non judgemental. However, the anonymity feature does not mean a compromise to classroom safety as Mentimeter also provides a profanity filter to avoid swear words, hate speech or even harassment from appearing on the screen.

There are of course several drawbacks of using Mentimeter application in teaching and learning process in an online classroom as well. One of them is that the teachers need time to learn how to use Mentimeter and to set it up. Teachers that have no experience in using educational tools, especially the older ones would need more time to master the skills to use Mentimeter application. Besides, Mentimeter application can only be used if the participants' remote devices function

properly. Unstable wi-fi connection will also result in difficulty for the students to participate in an online class.

Learning process will be easier, faster and more successful if the teachers are able to identify the learners' learning styles as it assists them to learn more effectively (Biggs, 2001). The most common learning styles identified are visual learners, auditory learners, reading and writing learners, and kinesthetic learners. Knowing the learners' learning styles helps the teacher to choose the best audio visual media in teaching and learning process especially in an online ESL classroom. Audio visual media can help students of different learning styles to increase their concentration and achieve their learning goals (Nia Karlina & Ruli Setiyadi, 2019). Teachers can act as facilitators to help the learners in autonomous learning and increase their self-confidence.

The learning theories include behaviorism, cognitivism and constructivism. Mentimeter can be a tool to implement two out of three learning theories which are cognitivism and constructivism. The Bloom's taxonomy suggests that 'understand' and 'apply' are the cognitive skills which the learners get to exploit with Mentimeter. Cognitive theories focus on the conceptualization of students' learning processes and address the issues of how information is received, organized, stored, and retrieved by the mind (Ertmer & Newby, 2013). Mentimeter provides a platform for the students to learn with the instructional design system when the materials are presented by an instructional system. Constructivism is a theory that encourages the learners to learn a new knowledge by linking their previous experience to the new knowledge (Bednar et al., 1991). Active learning is considered fundamental to constructivism where learning involves a process of constructing knowledge, rather than acquiring it (Bergman et al., 2013). The teacher can encourage active learning by utilizing the features of Mentimeter such as Word cloud and ask the students to submit the ideas generated on the platform. The students do not have to worry that they will make mistakes as all the submissions on the platform are anonymous.

In a nutshell, the previous research showed that Mentimeter is an ideal resource for online teaching and learning process. However, there was little to no research on how Mentimeter can accommodate different students' learning styles in an online ESL classroom. Therefore, the researchers carried out a detailed research on this issue after reviewing the features of Mentimeter and collecting feedback from the pre-service teachers that have used Mentimeter during the lessons in their previous learning practicum.

Method

The sampling method used in this study is purposive sampling. Purposive sampling is one of the non-probability sampling in which that the sample members are chosen based on certain criteria. The members of the sample are not randomly chosen and are carefully picked by the researchers. This is to ensure the sample members are pre-service ESL teachers and had used Mentimeter application during their online apprenticeship. The benefit of this method is that the result obtained will be relevant and accurate.

A survey was carried out based on 22 questions among 30 pre-service teachers which contained a scale ranking from 1 (strongly disagree) to 5 (strongly agree). The 30 pre-service teachers were TESL students from Universiti Pendidikan Sultan Idris (UPSI) that have just undergone their teaching practicum in secondary schools. To filter the respondents, they were asked if they had used Mentimeter in the online teaching before. The questionnaire was therefore distributed to the students who had used Audience Response System (ARS) such as Mentimeter or Kahoot! in the online classroom. A questionnaire consisting of 22 questions were answered by them via Google Form and the data was collected. Out of the 22 questions, 9 of them were close-ended questions, 11 of them were Likert scale questions and 2 of them were open ended questions.

The respondents were first asked if they were TESL students and if they had completed the teaching practicum to ensure their eligibility in participating in the study. Their names, age, genders and other personal information were not required in the questionnaire as they were not the aspect that the authors intended to study in this action research.

After confirming that the pre-service teacher had used Mentimeter during teaching and learning process in an ESL classroom, they would have to choose a reason or reasons why they had selected Mentimeter to be used in their classrooms. The respondents were also required to indicate the extent to which they agree or disagree with statements regarding the use of Mentimeter in an online classroom. The choices range from strongly agree to strongly disagree and the respondents could also express a neutral response to the statement according to their opinions.

The next part of the questionnaire required the pre-service teachers to choose the most suitable Mentimeter feature for visual learners, auditory learners, reading and writing learners and kinesthetic learners accordingly. 13 Mentimeter features were listed in the option section and the pre-service teachers can only select one Mentimeter feature that is most compatible to the respective learning style.

The final part of the questionnaire was two open ended questions. The respondents were asked to fill in the most effective Mentimeter feature that suits most of the students' learning styles based on their perspectives. In addition, they were asked to write down a brief comment about the Mentimeter application based on the learning theories after using the apps during their practicum.

Results

All the pre-service teachers (N=30) have used Mentimeter at least once during their teaching practicum and they chose to use Mentimeter due to different pedagogical reasons. The listed reasons included “to encourage the students’ participation”, “to accommodate different learning styles of students in the class”, “to increase the student’ concentration span”, “to make the class more engaging”, “to recap the the knowledge taught in previous lesson”, “to obtain feedback from the students”, “to assess and evaluate the performance of students”, “to get opinions”, “to understand the students’ learning progress” and “to have the overall graphs and data. The

respondents could select one or more reasons based on their opinions. The results are displayed in Figure 1 and Figure 2.

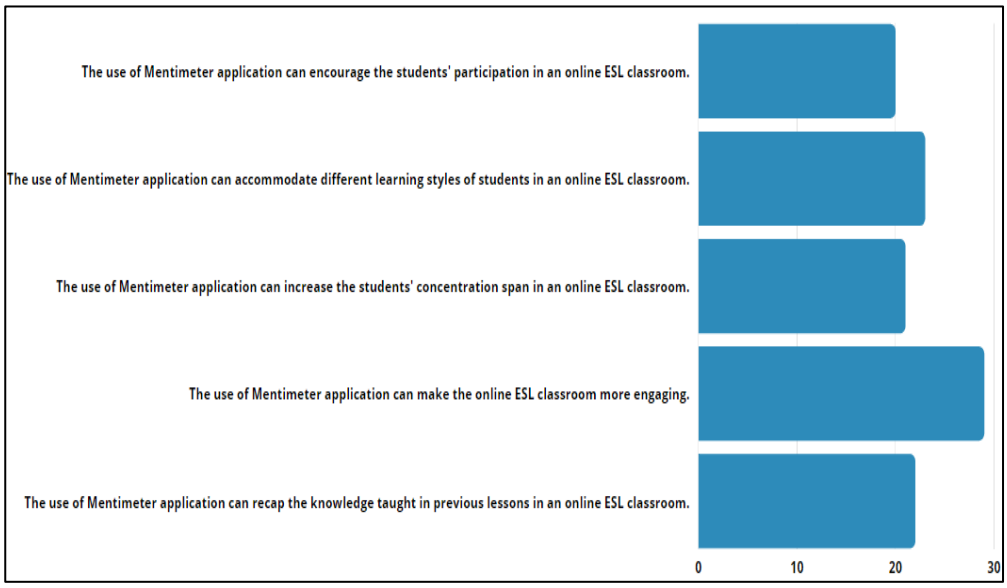

Figure 1: Ranking of main reasons for using Mentimeter in an online ESL classroom

Figure 1 shows that 23 out of 30 of the respondents agreed that the use of Mentimeter can accommodate to different learning styles of students in an online ESL classroom and 29 out of 30 of the respondents agreed that the use of Mentimeter can make the online ESL classroom more engaging. Other options including encouraging students' participation, increasing the students' concentration span and recapping the knowledge taught in previous lessons were voted by more than half of the total respondents as well.

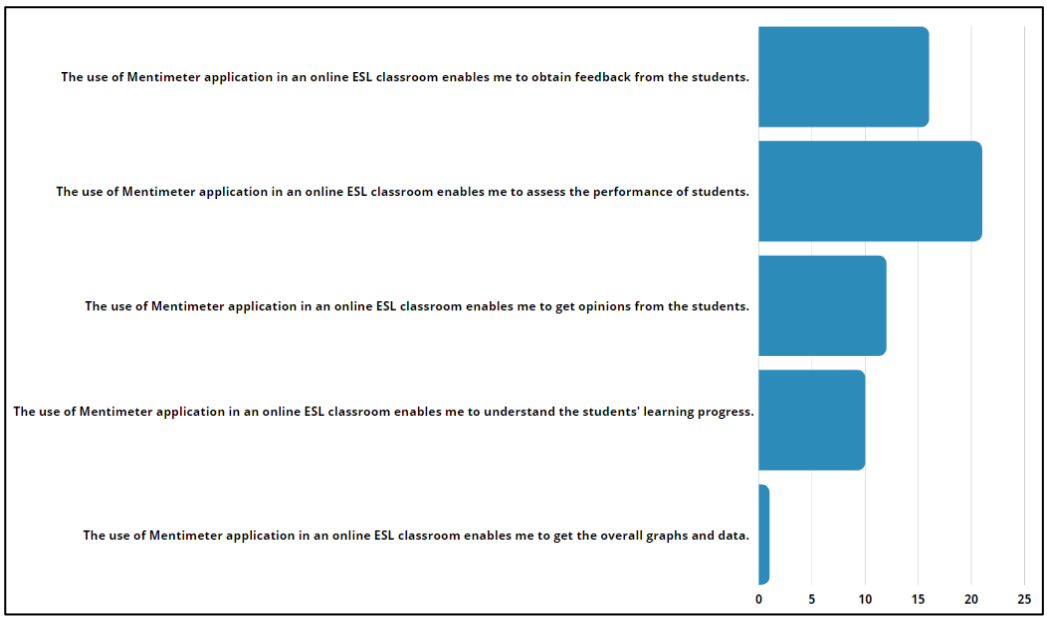

Figure 2: Ranking of main reasons for using Mentimeter in an online ESL classroom

From Figure 2, only 1 out of 30 of the pre-service teachers utilized Mentimeter to obtain the overall graphs and data of the lesson. There were also less than half of the respondents that used the Mentimeter application in an online ESL classroom to get opinions from the students, and to understand the students' learning progress. Besides the reasoning, 28 pre-service teachers agreed that matching his or her students' learning styles with the suitable Mentimeter feature has a significant impact on the teaching and learning process in an online ESL classroom.

The second part of the questionnaire required the pre-service teachers to select the most suitable Mentimeter feature that they think for the four learning styles which are visual, reading and writing, auditory, and kinesthetic. The results of this part were drawn into pie charts and each slice represents the percentage of the respondents that has chosen the question type. The non-selected question types are not shown in the pie chart to avoid confusion. (See Figure 3 for visual learners, Figure 4 for auditory learners, Figure 5 for kinesthetic learners and Figure 6 for reading and writing learners).

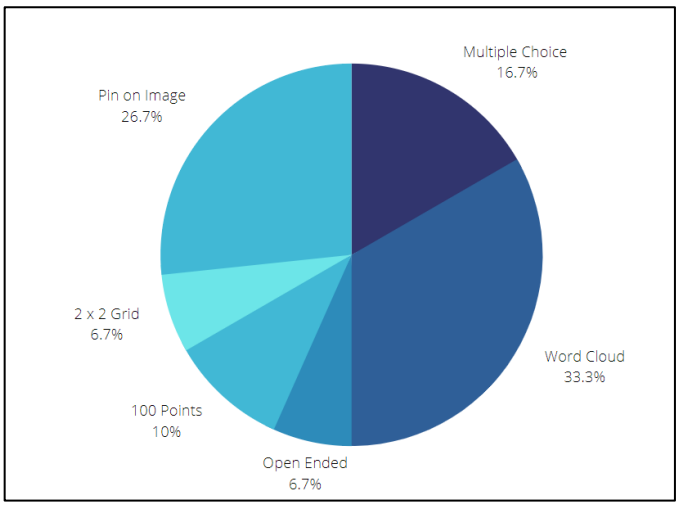

Figure 3: Pie chart of the question types selected by respondents for visual learners

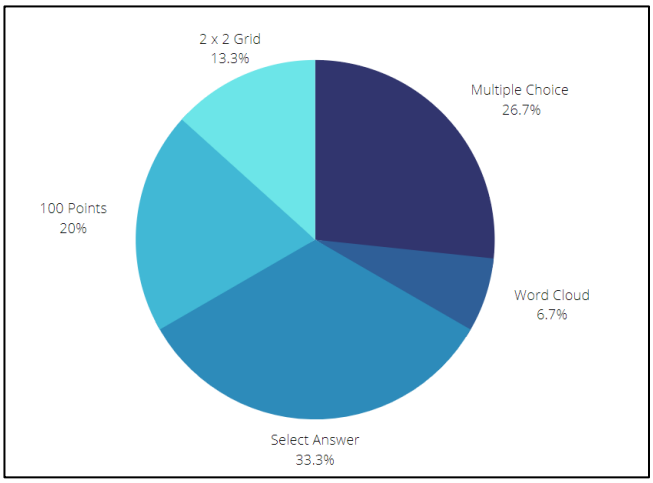

Figure 4: Pie chart of the question types selected by respondents for auditory learners

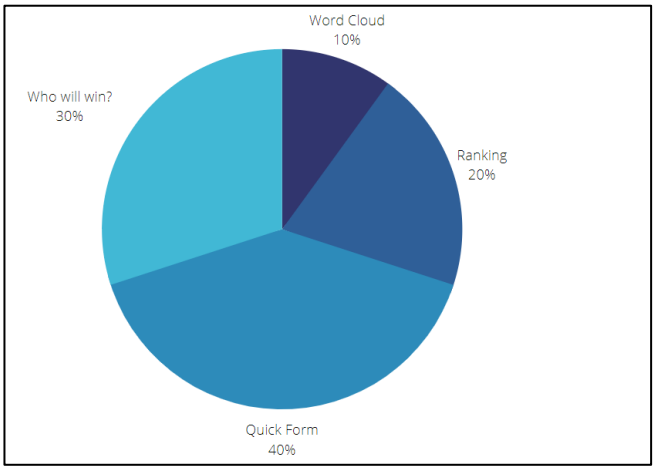

Figure 5: Pie chart of the question types selected by respondents for kinesthetic learners

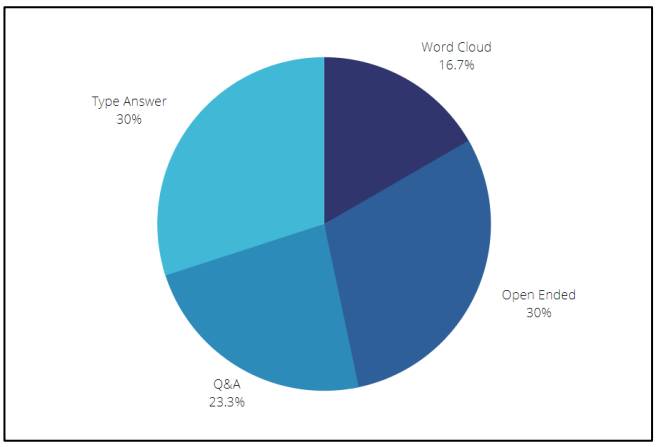

Figure 6: Pie chart of the question types selected by respondents for reading and writing learners

From the pie charts, we can deduce that the respondents have different preference of question types to use when teaching students of different learning styles. The 13 features including Multiple Choice, Word Cloud, Open Ended, Scales, Ranking, Q&A, Select Answer, Type Answer, 100 Points, 2x2 Grid, Quick Form, Who Will Win And Pin on Image. 33.3% of the respondents chose Word Cloud as the most suitable question type for visual learners, 33.3% of the respondents chose Select Answer as the most suitable question type for auditory learners and 40% of the respondents chose Quick Form as the most suitable question type for kinesthetic learners. Type Answer and Open-Ended feature have gotten equal number of votes which are 30% each for reading and writing learners.

Discussion

It is observed that almost all (28 out of 30) pre-service teachers agreed that matching his or her students' learning styles with the suitable Mentimeter feature has a significant impact on the teaching and learning process in an online ESL classroom. Using Mentimeter in an online ESL classroom triggers meaningful discussion and ensures inclusion.

Although it is not surprising to see some of the features are more popular than others, Mentimeter users usually use more than one feature in their presentation to make it more diversified and engaging. For example, the iconic Mentimeter feature, Word Cloud was chosen in all the learning styles, this shows the versatility of using this feature for every student. In contrast, Scales that was not chosen at all indicates that not all features are favourable by the group of pre-service teachers in their teaching.

However, it is interesting to see the fact that none of the respondents is willing to subscribe to the paid version as they think the free trial version is sufficient to use in an online ESL classroom. The free Mentimeter features include unlimited audience size, unlimited number of presentations, maximum two question slides and five quiz competition slides per presentation and customer support. The paid Mentimeter version has two packages which are Basic and Pro. The Basic Plan

costs RM50 every month and the additional features are unlimited questions, importing presentations and exporting results to Excel. As for the Mentimeter Pro Package, the subscribers would have to pay approximately RM150 monthly to enjoy all the features and also to create their own team and add their own branding.

The respondents were also asked to write their comments about Mentimeter based on the learning theories after using it in their teaching practicum. 23 of the respondents supported that cognitivism and constructivism are implemented in this application while seven of them gave critical comments such as the inability to edit the answers after submission and the anonymity feature do not help in developing the learning theories.

It is crucial for the teachers to take a balanced approach to teaching styles so that students of different learning styles can be benefited especially in a more challenging online classroom. The gamification feature of Mentimeter provides significant motivation to the students and encourages active learning to students of all learning styles. In addition, Peacock (2001, p. 15) proposes that "teachers should strive for a balanced teaching style that does not excessively favor any one learning style— rather that tries to accommodate multiple learning styles".

Conclusion

Mentimeter has always been proven to be an ideal educational tool to be used in online classrooms, but this research also showed that the advantage of Mentimeter compared to other educational tools is that its diversity promotes a more inclusive environment for the students. The immediate feedback also allows the teachers to react in real time and adjust the pace of the lesson based on the responses received. The students are less pressured when their names are not shown together with their submitted answers and the insecurity problem does not exist as well. The lack of countdown feature in Mentimeter also eases lower proficiency students to express their thoughts without having to panic that the time might run out. The pre-service teachers have chosen to use Mentimeter during their teaching practicum due to different pedagogical reasons, but they have one same objective, that is to bring a better learning experience to the learners.

References

Alexander, R. (2008). *Towards dialogic teaching: Rethinking classroom talk* (4th ed.). Dialogos.

Almendingen, K., Morseth, M. S., Gjølstad, E., Brevik, A., & Tørris, C. (2021). Student's experiences with online teaching following COVID-19 lockdown: A mixed methods explorative study. *PLoS One, 16*(8). https://doi.org/10.1371/journal.pone.0250378

Bednar, A. K., Cunningham, D., Duffy, T. M., & Perry, J. D. (1991). Theory into practice: How do we link?. In G. J. Anglin (Ed.), *Instructional technology: Past, present, and future* (pp. 88-101). Libraries Unlimited.

Bergman, E. M., Sieben, J. M., Smailbegovic, I., de Bruin, A. B. H., Scherpbier, A. J. J. A., & van der Vleuten, C. P. M. (2013). Constructive, collaborative, contextual, and self-directed learning in surface anatomy education. *Anatomical Sciences Education, 6*(2), 114-124. http://dx.doi.org/10.1002/ase.1306

Biggs, J. (2001) Enhancing learning: A matter of style or approach?. In R. J. Sternberg, L. F. Zhang (Eds.), *Perspectives on thinking, learning and cognitive styles* (pp. 73-102). Lawrence Erlbaum Associates.

Cheung, G., Wan, K. & Chan, K. (2018). Efficient use of clickers: A mixed-method inquiry with university teachers. *Education Sciences, 8*(1). https://doi.org/10.3390/educsci8010031

Chickering, A. W. & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin*, 3-7. https://eric.ed.gov/?id=ED282491

Elliott, C. (2003). Using a personal response system in economics teaching. *International Review of Economics Education, 1*(1), 80-86. http://dx.doi.org/10.1016/S1477-3880(15)30213-9

Ertmer, P. A., & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly, 26*(2), 43-71. https://doi.org/10.1002/piq.21143

Funnell, P. (2017). Using audience response systems to enhance student engagement and learning in information literacy teaching. *Journal of Information Literacy, 11*(2), 28-50. https://doi.org/10.11645/11.2.2238

Gibbs, G., & Simpson, C. (2005) Conditions under which assessment supports students' learning. *Learning and Teaching in Higher Education*, (1). 3-31. https://eprints.glos.ac.uk/3609/

Nia Karlina, & Ruli Setiyadi, (2019). The use of audio-visual learning media in improving student concentration in energy materials. *Journal of Primary Education, 3*(1), 17-26. https://doi.org/10.22460/pej.v3i1.1229

Moorhouse, B. L. (2017). Using Mentimeter for teacher training and language teaching. *Modern English Teacher 26*(3), 41–43. https://hub.hku.hk/handle/10722/242315

Peacock, M. (2001). Match or mismatch? Learning styles and teaching styles in EFL. *International Journal of Applied Linguistics, 11*(1), 1-20. https://doi.org/10.1111/1473-4192.00001

Sangrà, A., Vlachopoulos, D., & Cabrera, N. (2012). Building an inclusive definition of e-learning: An approach to the conceptual framework. *International Review of Research in Open and Distance Learning, 13*(2), 145-159. https://doi.org/10.19173/irrodl.v13i2.1161

Wong, A. (2016). Student perception on a student response system formed by combining mobile phone and a polling website. *International Journal of Education and Development using Information and Communication Technology, 12*(1), 144-153. https://files.eric.ed.gov/fulltext/EJ1099594.pdf