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SIMULATIONS OF OSPEs USING SOCRATIVE TEACHER-PACED SETTING DURING THE COVID-19 PANDEMIC

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ABSTRACT

Due to the COVID-19 outbreak, there has been a dramatic change in education, specifically seen in the distinctive rise of the implementation of online distance learning by academic institutions. In the same way, all medical curricula have been transformed into online settings, including examinations such as the Objective Structured Practical Examinations (OSPEs), which evaluate preclinical students' practical and laboratory skills. The conventional protocol involves students being assessed at individual OSPE stations whereby a specific duration is allocated for each station. However, under the conditions mediated by the COVID-19 pandemic, there have been unprecedented challenges in generating electronic OSPEs as well as difficulties medical students face as they are undergoing online OSPEs for the first time. As it is important to ensure students are prepared for their semester exam during this pandemic, medical educators have obliged to embark on to various online platforms to generate OSPEs questions. Hence, this paper aims to provide a platform namely in the form of Socrative for the purpose of designing OSPEs questions. This platform enables educators to simulate real OSPEs by controlling the flow of questions according to set durations through the use of the teacher-paced setting. A demonstration of this process was first shown to a small group of 23 medical students, after which the Socrative teacher-paced setting was used twice. At the end of the simulation, several close-ended and open-ended questions were provided to collect respondents' feedback. The results showed that all the respondents agreed with the belief that Socrative teacher-paced setting mimics real OSPEs. Hence, this approach permits medical students to perform multiple practice attempts prior to the semester examination. Through this initiative, it is hoped that their learning and examination performance would be enhanced.

Keywords: Socrative; OSPEs; teacher-paced setting; COVID-19

1 INTRODUCTION

The coronavirus disease 2019 (COVID-19) outbreak has disrupted academic teaching standards by bringing them to a halt. In tandem with other academic institutions, medical schools have implemented significant adaptations by conducting online teaching sessions (Boursicot et al., 2020). Despite that, one major concern lies in the degree of understanding a student can derive from remote online teaching. This is because tracking of student understanding may not be as effective as before, and the introduction of online assessment exacerbates this complexity even further (Boursicot et al., 2020; Kumar & Sajja SN, 2020).

On the other hand, students may feel extreme pressure due to the drastic change in the teaching pattern during COVID-19. For instance, their uncertainty over their online exams towards the semester end is one major factor behind their stress (Moawad, 2020). This situation has also deprived medical students of their clinical practice and practical lab work since all the curricula including examinations have been converted to the online format (Chandratre, 2020).

In medical schools, Objective Structured Practical Examinations (OSPEs) are employed to assess preclinical students in terms of their proficiency in practical skills and competencies. The standard OSPEs procedure comprises physical rotation of students through multiple stations, where each station will have a specific assessment duration (Abdulrahman, 2020). In the midst of the COVID-19 pandemic, educators may find transitioning from conservative to electronic OSPEs a major challenge (Dutta et al., 2020). Given that OSPEs is a key element to examine and indicate the skill level of preclinical students before their progression into the clinical year, it is imperative that educators adopt creative ways to provide an online platform for students' learning and assessment purposes during this pandemic period (Dutta et al., 2020).

The Faculty of Medicine of Universiti Teknologi MARA (UiTM) selected UFuture as the Learning Management System (LMS) platform to serve as an assessment tool for students throughout the months of the pandemic from March to August. The exposure to online assessments, specifically through the UFuture platform, was new to all the medical students of UiTM, and proved to be a challenge for them. In order to be sufficiently prepared for the UFuture online exam, the students required a virtual training platform capable of simulating OSPEs exam questions. Besides, the scenario also posed educators with obstacles in attempting to identify a suitable online platform for student exam preparation.

Therefore, this study attempts to mimic an appropriate OSPEs environment alongside smooth inter-station transitions by engaging in a new Socrative platform approach and applying the teacher-paced setting.

2 LITERATURE REVIEW

Teaching pattern for medical students during COVID-19

In March 2020, it was found that a rapid switch to distance learning was seen in almost all students across the globe as part of social distancing efforts (Fontana, 2020; Theoret & Ming, 2020). As a result, numerous students including those from higher learning institutions worldwide had experienced stress and anxiety associated with unfavourable academic outcomes (Martinez & Nguyen, 2020). Moreover, because there was a lack of patient interaction, individual training and practical lab work in medical education worldwide due to COVID-19, it imposed great concern among medical students. Meanwhile, the academic teaching routine must be maintained by educators using optimum skills and feasible technologies (Kumar & Sajja SN, 2020) since all curricula including examinations have become online (Chandratre, 2020).

Although the most prevalent concerns of medical students are the uncertainty on their exams (Barik, Paul, & Kandwal, 2020; Chandratre, 2020) and if they can have timely graduation (Theoret & Ming, 2020), maintaining communication and collectively employing all the available online learning tools remain the most important considerations to allow medical education to be sustained during this pandemic (Theoret & Ming, 2020). By all means, the continuation of assessments for medical students is necessary albeit the multiple challenges arising in online delivery. Looking at it from another perspective, the online transition has granted medical educators the opportunity to access various online platforms. In catering to their students, it is essential that they create an environment conducive for teaching and learning purposes as well as training for examinations including OSPEs (Dutta et al., 2020).

Objective structure practical examinations (OSPEs)

With regard to assessing preclinical students' competencies in practical skills, it was acknowledged that Objective Structured Practical Examinations (OSPEs) is the best skill-based assessment tool for these students who are still learning basic sciences (Abdulrahman, 2020; Miller, 1990). Through a physical rotation system, students will be assessed at multiple stations in OSPEs for a specific timeframe in each station. As OSPEs consist of an objective format and straightforward method, the intellectual and psychomotor abilities of students can be evaluated via this assessment. Because it covers a broad range of objectives, this proves that it is an excellent tool in distinguishing among various student groups (Abdulrahman, 2020).

The COVID-19 pandemic marked a period of transition from conservative OSPEs to electronic variants by many medical institutions (Dutta et al., 2020). One noteworthy point to make is that majority of global medical institutions still implement OSPEs as the main modality of online assessment (Kumar & Sajja SN, 2020). Given the significance of OSPEs, educators should view this matter seriously and prioritise on pinpointing an online platform which most suitably simulates an OSPEs environment as a means of providing constant student training and preparation for the final OSPEs in the midst of this pandemic.

As depicted in Figure 1, the approximate duration for each OSPEs station in the Faculty of Medicine of UiTM is set at 4 minutes. This indicates that the students are given 4 minutes to answer all the questions from one station before moving on to the next station once the lab timer rings.

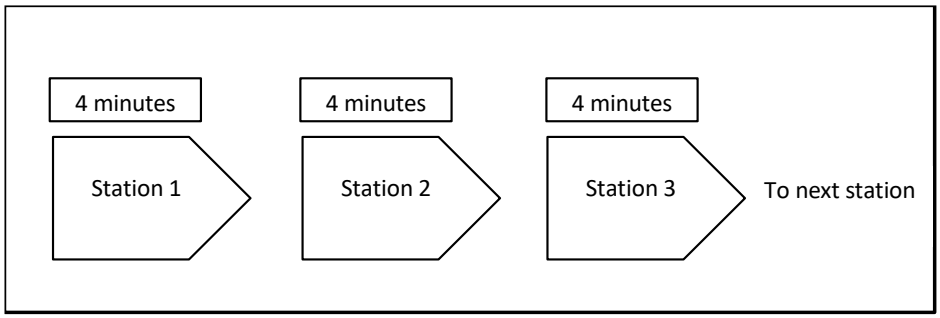

Figure 1: OSPEs structure implemented by the Faculty of Medicine of UiTM.

Since the students are unfamiliar with the current online OSPEs conducted using the UiTM LMS platform: UFuture, educators must ensure that the students are properly exposed to and trained in a simulated assessment environment. On that account, our study explored the Socrative platform using the teacher-paced setting.

Socrative

By definition, Socrative is one of the most common online student reaction systems whereby it comprises a web-based platform that can be accessed from any browser with an established internet connection (Mork, 2014). For the purpose of assessments and improving cooperative learning to enhance student engagement, Socrative had been utilised by a variety of researchers to fulfil such goals (Abdulla, 2018; Alharbi & Meccawy, 2020; Balta & Tzafilkou, 2019; Munusamy, Osman, Riaz, Ali, & Mraiche, 2019)

As part of our aim to mimic an appropriate OSPEs environment while preserving a smooth transition between each station/question, our study attempted an exploration of the use of the teacher-paced setting in Socrative whereby it allows the educator to insert pictures, micrographs, or any images to create OSPEs questions. This corresponded to our goal in preparing the students ahead of the actual online OSPEs assessment. In specific terms, the teacher-paced setting permitted the educator to control the question flow by uploading one question at a time and observing responses in real-time. Once the set time limit of 4 minutes had been exhausted for one station, the students were informed by the educator over video conference to proceed to another station/question.

3 METHODOLOGY

Launching the OSPEs on Socrative

1) From the teacher's perspective: On the Socrative platform, the educator informed the students regarding the OSPEs trial run through a video conference. The pre-developed OSPEs quiz and the name of the room were shared with the students. The quiz was then selected by the educator (Figure 2).

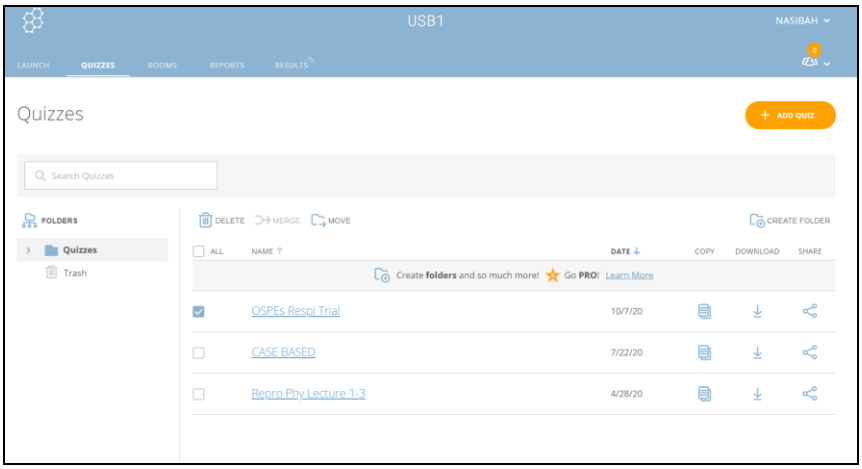

Figure 2: Selecting the respective quiz

The educator selected the teacher-paced setting and clicked the button to access the names of the students (Figure 3). While doing so, constant reminders were given to the students to standby while waiting for the quiz to launch. The video conference was maintained throughout the session to enable the educator to convey directives to the students.

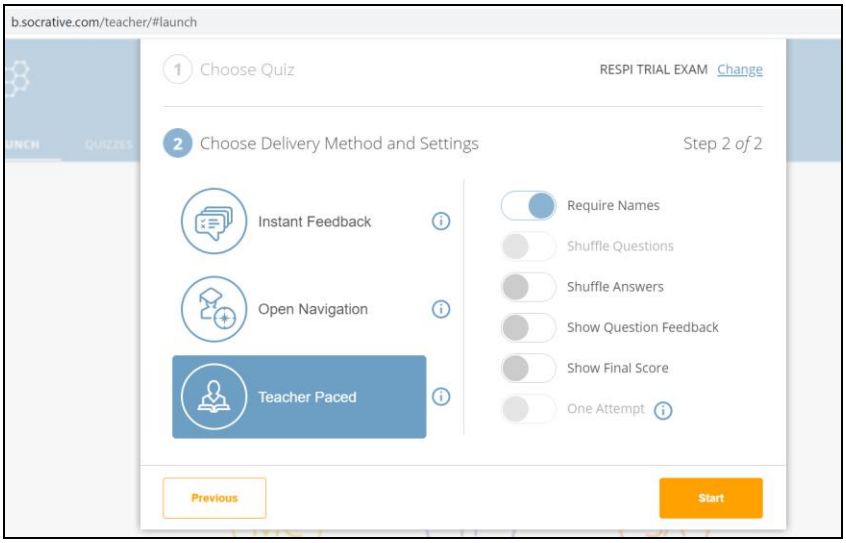

Figure 3: Teacher-paced setting

From the student's perspective: Students were required to access the Socrative web and key in the room name that the educator had disclosed earlier (Figure 4).

Figure 4: Student's perspective: Keying in the room name

Upon joining, students were required to key in their name (Figure 5).

Figure 5: Students were required to key in their name

2) From the teacher's perspective: After all the students had entered the room, the educator clicked the start button. Upon clicking start, both the educator and student were able to view the first question (Figure 6). Each question was set for a time limit of 4 minutes by the educator, and the students were given a reminder when the time remaining was 1 minute.

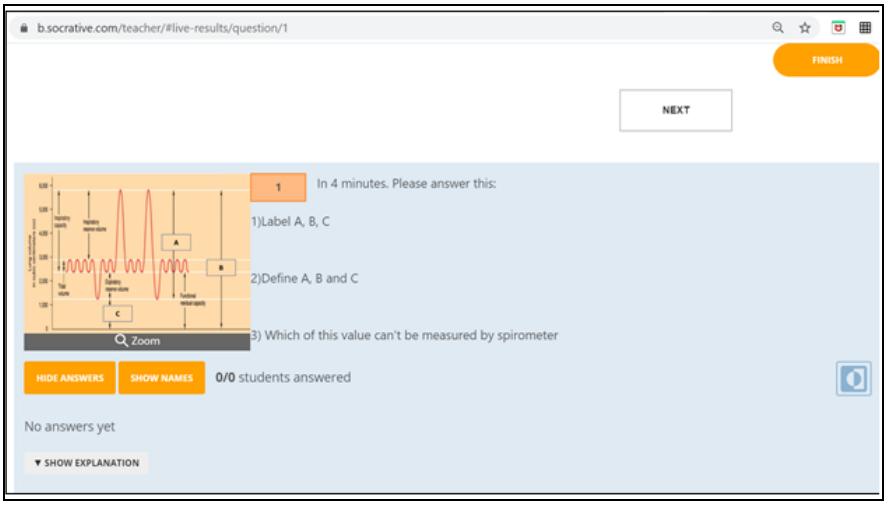

Figure 6: Setting the 4-minute time limit for each question. The pace can be controlled by the educator.

From the student's perspective: Students were required to answer all the questions in station 1 (Question No 1). A timely reminder to click the submit button will be issued by the educator (Figure 7).

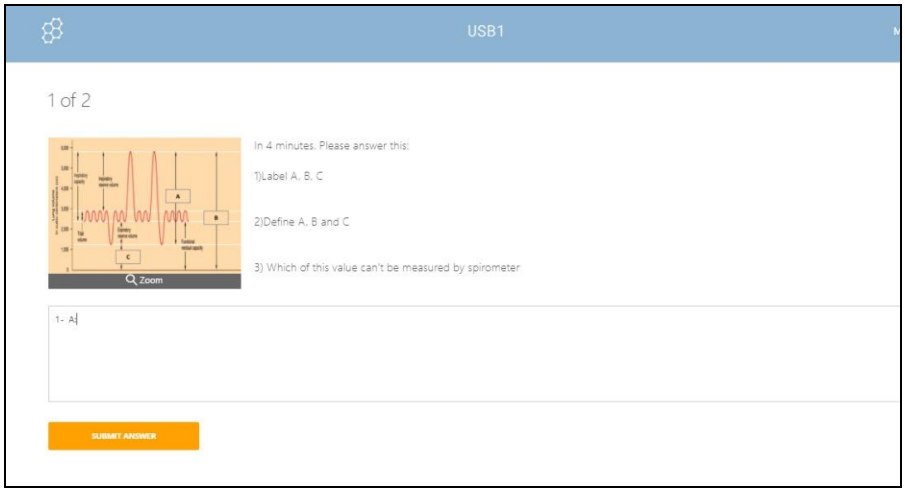

Figure 7: Students were required to answer the questions within the time limit of 4 minutes and click the submit button once done.

If the answer was submitted before the 4-minute time limit was reached, the students were required to wait for the educator to progress to the subsequent question/station (Figure 8). Similar to the real OSPEs where students are only allowed to advance to the next station once the

timer rings, this teacher-paced setting resembles it since students were only able to move to the next station after the timer indicated the end of the 4 minutes.

Figure 8: Students were required to wait for the educator to progress to the next question.

3) From the teacher's perspective: Educator was able to view the answers in real-time (Figure 9).

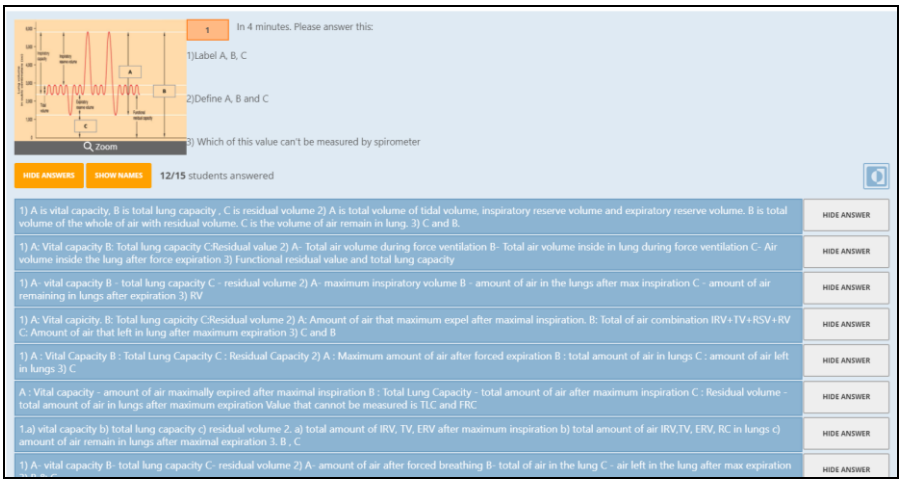

Figure 9: Educator was able to visualise the answers in real-time.

The educator can conduct a video conference discussion of the answers with their students towards the end of the trial.

Students' feedback on the Socrative Teacher-paced setting

After the simulation was repeated three times with each attempt varying the questions and modules, several close-ended and open-ended questions were distributed to collect feedback from 23 respondents. The respondents consisted of two cohorts of tutorial groups conducted by

the author whereby participation was voluntary, and identities were kept anonymous. The feedback form comprised two close-ended questions on the implementation of the Socrative teacher-paced setting and one open-ended question to obtain their feedback on any difficulties faced and their overall opinion of Socrative. To procure this data, an email link to the Google Form survey was provided to the students.

4 RESULTS AND DISCUSSION

The anonymous online feedback form was completed with a 100% return rate. Based on their responses shown in Figure 10, all 23 respondents agreed with the notion that Socrative was effective in mimicking actual OSPEs. Besides, the majority of them agreed that Socrative is an easy platform to use (Figure 11).

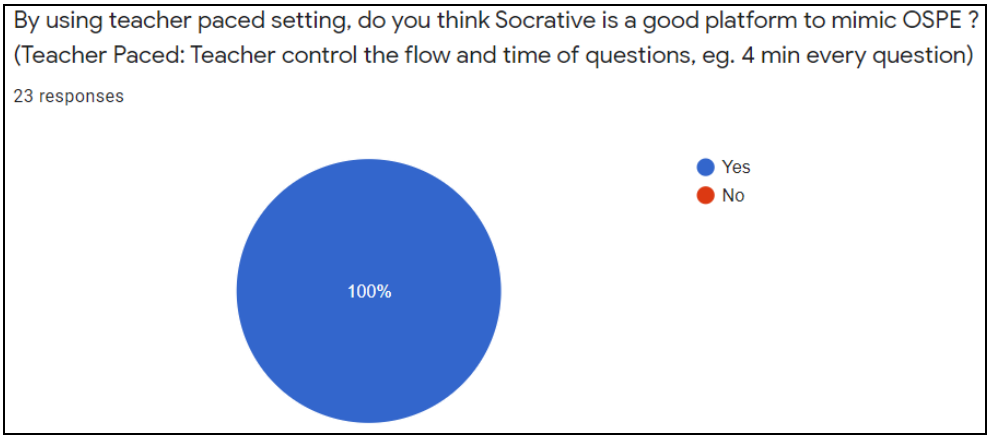

Figure 10: Students' feedback regarding the implementation of Socrative teacher-paced setting as a platform to mimic actual OSPEs.

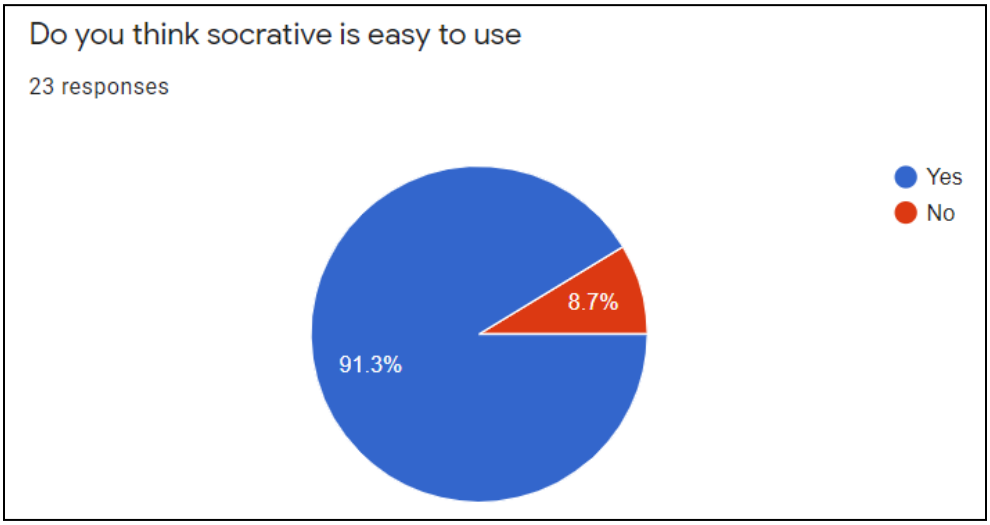

Figure 11: Students' feedback on the feasibility of Socrative

Socrative has seen a broad range of use as a formative assessment tool in pharmacy, biomedical sciences and English education (Alharbi & Meccawy, 2020; Faya Cerqueiro & Martín-Macho Harrison, 2019; Munusamy et al., 2019). The availability of its teacher-paced setting which allows educators to view their students' answers easily attributes to its conduciveness as a formative assessment tool. Furthermore, an excel report on the students' answers will be provided to the educators once the session has ended. Specific to the medical education, a study was carried out to assess students on Pathology subjects through using Socrative in an open navigation setting and consisted of multiple choice and short essay questions evaluation (Batool, Mumtaz, Ali, & Chughtai, 2018). In that study, a major proportion, that was 60% of participants found Socrative to be a convenient examination tool and reported satisfaction with its features. It corroborated the findings of our study where the majority of the respondents perceived Socrative as easy to utilise.

To date, there has been a lack of evidence suggesting the application of the Socrative teacher-paced setting in mimicking OSPEs examination for medical students in Malaysia. Most recently, an exploratory study in India focused on the ability of the Google Classroom platform in constructing electronic OSPEs to cater for medical students during the COVID-19 pandemic (Dutta et al., 2020). The study proposed employing the LMS belonging to the university itself in generating OSPEs questions. LMS through its various platforms facilitates the insertion of pictures of videos into the system in which educators may pose questions (Khan & Jawaid, 2020). With regard to the Faculty of Medicine of UiTM, UFuture was the LMS platform selected to deliver assessments to their students and was used for the final semester exam during the COVID-19 pandemic. Nonetheless, the implementation of this platform for training purposes proved difficult in a small setting. Educators are able to utilise any small setting platform to aid their students' exam preparation in OSPEs within their assigned small group sessions and tutorials. Thus, for the purpose of OSPEs simulation for medical students, the Socrative teacher-paced setting approach in our study can be applied.

Based on the findings of our study, UiTM students agreed that Socrative mimics actual OSPEs and thus, it is hoped that it can serve as a knowledge enhancement tool and prepare them for the final examination. When Socrative was introduced in the form of multiple-choice questions to assess the medical students' Physiology knowledge, there was a significant improvement in their exam performance (Al Sunni & Latif, 2020). Another study where Socrative was utilised throughout the term as an evaluation method also revealed an enhanced performance in the final exams as a result as compared to their previous performance prior to Socrative implementation (Abdulla, 2018).

Most of the students agreed that Socrative is a good platform, easy to use, and simulates OSPEs based on their responses to the open-ended questions related to the degree of feasibility and OSPEs simulation by Socrative (Figure 12). Several student suggested the extension of the 4-minute time limit to 5 minutes due to internet connectivity problems that they faced, which is an obvious challenge in online distance learning. Therefore, educators should consider this practical suggestion for future OSPEs simulations. While one student stated that "the platform is simple, but it can't go back to the previous questions", it is important to note that no student is

allowed to return to their previous station to complete their answer in the actual OSPEs. It shows that the Socrative approach accurately mimics OSPEs.

Give your honest feedback on Socrative as an implementation tool to simulate OSPE . You are free to write anything here.
I think it gives a very real simulating experience of OSPE based on the time limit
its a good platform. It minimize any lacking compare to other platform
Less question that can appear in one screen without scrolling and automatic submit after time given
It is easier and faster to use
There is no time stated so it is quite hard to predict the time.
I think its okay for ospe but not for case based questions, if department control our time to answer the question it might be hard for us if there's any internet problem.
its okay , the only problem is internet connection
The platform is quite simple but the it cannot go back to the previous question
it is good to use it as a platform for OSPE because the question is clearly seen and the answer side is big enough to give all the fact
easy to access and use. highly recommended for ospe/ case based Q's.
In my opinion, Socrative would be a good tool to mimic OSPE as all the students will do it uniformly and it is easier to be conducted than UFUTURE. However, I hope that the layou
Same as ospe
To be honest it was really good tool for me to answer the questions.
it easy to use but due bad to internet connection it might pending the answer and time to answer in the next question will be affected and we might not answered some questions..
Just nice but if student have low internet connection, it may be a little hard for them
I think Socrative is a good platform to perform opse but I'm afraid that students including me will not get enough time to answer the question due to internet problem
Socrative is a good platform to mimic OSPE. However, students with poor internet connection will face difficulties. Students might not be able to submit on time since the pace is b
Socrative can let the teachers to control the time which is really suitable for OSPE which has restricted time to answer the questions based on the original format.
Socrative is already good to be a platform for online OSPE but problem usually arise from internet connection ☹
socrative is fine for me, maybe we can try to use a few other platform to compare which one is the best.
In my opinion, I think if we were to use Socrative, the time should be extended a bit, maybe make it 5 minutes, as there could be some technical difficulties such as question appea
I think its okay for ospe but not for case based questions, if department control our time to answer the question it might be hard for us if there's any internet problem.
It is easier and faster to use

Figure 12: Students' responses to open-ended questions regarding Socrative.

5 CONCLUSION AND RECOMMENDATION

The findings of our study indicated that the Socrative teacher-paced setting mimics and provides a realistic OSPEs simulation as expressed by the students. Hence, this approach is hoped to enhance the teaching, learning and examination performance. As of now, we are facing an uncertain situation where a lockdown may be implemented at any time while nationwide online distance learning has prevailed due to the rise in COVID-19 cases. Thus, educators may find online digital tools such as Socrative advantageous for the facilitation of teaching and student examination training.

REFERENCES

Abdulla, M. H. (2018). The use of an online student response system to support learning of Physiology during lectures to medical students. *Education and Information Technologies, 23*(6), 2931-2946. doi:10.1007/s10639-018-9752-0

Abdulrahman, A. M. (2020). Objective Structured Practical Examination (OSPE): As an Assessment Tool in the Problem Based Learning (PBL) Curriculum. *Frontiers Journal of Anatomical Variations, 1*(1), 1-2.

Al Sunni, A., & Latif, R. (2020). Determining the effectiveness of a cell phone-based student response system. *Journal of Taibah University Medical Sciences, 15*(1), 59-65. doi:https://doi.org/10.1016/j.jtumed.2019.12.002

Alharbi, A., & Meccawy, Z. (2020). Introducing Socrative as a Tool for Formative Assessment in Saudi EFL Classrooms *Arab World English Journal, 11*(3), 372-384. doi:10.24093/awej/vol11no3.23

Balta, N., & Tzafilkou, K. (2019). Using Socrative software for instant formative feedback in physics courses. *Education and Information Technologies, 24*(1), 307-323. doi:10.1007/s10639-018-9773-8

Barik, S., Paul, S., & Kandwal, P. (2020). Insight into the changing patterns in clinical and academic activities of the orthopedic residents during COVID-19 pandemic: a cross-sectional survey. *Knee Surgery, Sports Traumatology, Arthroscopy, 28*(10), 3087-3093. doi:10.1007/s00167-020-06274-0

Batool, H., Mumtaz, A., Ali, S., & Chughtai, A. (2018). Positive trend shifting to Online Assessments: A Review of using Socrative in Medical College, its Advantages and Challenges faced. *J Med Edu, 17*(3), e105641. doi:10.22037/jme.v17i3.21694

Boursicot, K., Kemp, S., Ong, T. H., Wijaya, L., Goh, S. H., Freeman, K., & Curran, I. (2020). Conducting a high-stakes OSCE in a COVID-19 environment. *MedEdPublish, 9*(1), 54. doi:10.15694/mep.2020.000054.1

Chandratre, S. (2020). Medical Students and COVID-19: Challenges and Supportive Strategies. *Journal of medical education and curricular development, 7*, 2382120520935059-2382120520935059. doi:10.1177/2382120520935059

Dutta, A. K., Goswami, K., Murugaiyan, S., Sahoo, S., Pal, A., Paul, C., . . . Biswas, S. (2020). The transition from objectively structured practical examination (OSPE) to electronic OSPE in the era of COVID-19. *Biochemistry and Molecular Biology Education, 48*(5), 488-489. doi:10.1002/bmb.21410

Faya Cerqueiro, F., & Martín-Macho Harrison, A. (2019). Socrative in Higher Education: Game vs. Other Uses. *Multimodal Technologies Interact, 3*(3), 49.

Fontana, M. T. (2020). Gamification of ChemDraw during the COVID-19 Pandemic: Investigating How a Serious, Educational-Game Tournament (Molecule Madness) Impacts Student Wellness and Organic Chemistry Skills while Distance Learning. *Journal of Chemical Education, 97*(9), 3358-3368. doi:10.1021/acs.jchemed.0c00722

Khan, R. A., & Jawaid, M. (2020). Technology Enhanced Assessment (TEA) in COVID 19 Pandemic. *Pakistan journal of medical sciences, 36*(COVID19-S4), S108-S110. doi:10.12669/pjms.36.COVID19-S4.2795

Kumar, D., & Sajja SN, R. (2020). Qualifying online assessment during COVID-19 pandemic:

Reflecting on our experience under the cognitive lens of Miller's pyramid. *Res Dev Med Educ, 9*(1), 15-15. doi:10.34172/rdme.2020.015

Martinez, A., & Nguyen, S. (2020). The Impact of Covid-19 on College Student Well-Being. Retrieved from https://vtechworks.lib.vt.edu/bitstream/handle/10919/99741/2020ImpactCOVID19CollegeStudent.pdf?sequence=1&isAllowed=y

Miller, G. E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine, 66*(9 Suppl). doi:doi: 10.1097/00001888-199009000-00045. PMID: 2400509.

Moawad, R. (2020). Online Learning during the COVID- 19 Pandemic and Academic Stress in University Students. doi:10.18662/rrem/12.1sup2

Mork, C. (2014). Benefits of using online student response systems in Japanese EFL classrooms. *The JALT CALL Journal, 10*(2), 127-137. doi:https://doi.org/10.29140/jaltcall.v10n2.171

Munusamy, S., Osman, A., Riaz, S., Ali, S., & Mraiche, F. (2019). The use of Socrative and Yammer online tools to promote interactive learning in pharmacy education. *Currents in Pharmacy Teaching and Learning, 11*(1), 76-80. doi:https://doi.org/10.1016/j.cptl.2018.09.021

Theoret, C., & Ming, X. (2020). Our education, our concerns: The impact on medical student education of COVID-19. *Medical Education, 54*(7), 591-592. doi:10.1111/medu.14181

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