'ULŪM ISLĀMIYYAH THE MALAYSIAN JOURNAL OF ISLAMIC SCIENCES
VOL.33 S4 (2021) ISSN:1675-5936 | eISSN:2289-4799

E-Learning Tools for Remote Learning Before and After Movement Control Order in Tamhidi Centre, Universiti Sains Islam Malaysia, USIM

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Abstract

Tamhidi Centre has been using online tools for learning in past years. The atmosphere of virtual world that is connected online has influenced academia in teaching and learning sessions. Before the Movement Control Order (MCO), blended learning has been carried out for all subjects taught in Tamhidi using Global Open Access Learning System (GOALS) as learning management system provided by USIM. Due to the pandemic outbreak, Tamhidi Centre has faced a challenging time because the semester is already at the final semester for the cohort 2019/2020. During the MCO 1.0, while students were at home, classes were conducted fully online. The final exams was also done online via GOALS. Then, coming the next cohort, for the first time in history, orientation was held online, and students came to campus in an arranged time within the period of seven days. Without having new staff intake, the grouping of students now is increased from 25 students per group to 45 students. Initially, classes are conducted online, both synchronous and asynchronously. All students are involved in this kind of approach, but for science stream students; biology, physics dan chemistry experiments still need to do face to face sessions in the laboratory. This paper will document the experience of several Tamhidi in using online tools before the MCO, during MCO, and after the MCO 1.0 days are over.

Manuscript Received Date: 08/10/21 Manuscript Acceptance Date: 5/12/21 Manuscript Published Date: 25/12/21

DOI: 10.33102/uij.vol33noS4.417

Keywords: *Online learning, MCO, Tamhidi*

1.0 Introduction

Information Communication Technology (ICT) has transformed our educational system in advancement of teaching, knowledge delivery and training. The emergence of ICT has revolutionized the system from conventional method of teaching to highly-status and up-to-date community in Malaysia (Norazah, 2010). It has improved learning outcomes especially in higher education, due to limited resources and reduces in cost and time (Pape, 2010). Today, having a computer or a smart phone with internet access, enables delivery of knowledge made easy.

By using online tools, lecturers can easily create, deliver content, monitor participation and assess students' performance (Watson, 2007). It stores information and runs entirely on the World Wide Web. With such medium, teaching and learning session can now be run without physical classrooms, with vastly reduced teaching staff and without the need for a supporting mainframe, requiring only that the teachers, students and administrators log in from their home computer (Watson, 2007; Ashok Sharma, 2016). To date, the current generation of young graduating teachers are known as *the digital saviours* (Creswell 2005; Khoo et al., 2009). They have grown up with technologies more than any beginner teachers were in the past; as most had cell phones as teenagers, Google for information, and keep in constant contact with friends through Facebook, texting or instant messaging. On that note, this approach could be used in any kind of circumstances.

2.0 Problem Statement

COVID-19 outbreak has impacted the higher education sector tremendously. Many universities and colleges were forced to make swift changes to move to online teaching when MCO was imposed. But this comes with several challenges. Ultimately, even if students and lecturers can get pass the technical difficulties, one cannot assume that all tertiary students enjoy unlimited internet access or possess laptops or desktops that allow them to attend online classes freely. The Internet Users Survey 2018 conducted by the Malaysian Communications and Multimedia Commission, for example, found that there is a sizeable disparity between urban and rural internet users. Urban users make up for 70.0 % Internet users (MCMC, 2018). Students in rurals areas has difficulties in having a strong Internet access and coverage. In brief, all education level employed this method. We need to find an optimum solution upon using online tools for teaching.

3.0 Literature Review

3.1 Coronavirus Disease (COVID-19)

With the outburst of pandemic, the world now has been changing its direction into using online synchronous session of teaching and learning even in primary level, let alone the tertiary education institution. On the 25th January 2020, the first case of coronavirus disease

(COVID-19) was detected in Malaysia and traced back to 3 Chinese nationals who previously had close contact with an infected person in Singapore [Three Coronavirus Cases (2020), First Coronavirus Cases (2020)].

Starting from the 18th March 2020, the government restricted people from travelling to other states or COVID-19 affected areas. Only 1 person from 1 family could leave the home and go out to buy essential goods. This period of time is named Movement Control Order (MCO). The Movement Control Order (MCO) was implemented on the 18th March and was in place until the 28th April to control the spread of COVID-19 nationwide. During MCO, kindergartens, government, and private schools including daily schools, boarding schools, international schools, tahfiz centers, other primary, secondary and pre-university institutions were all closed (Elengoe 2020). At the moment, MCO 1.0 has ended, but a conditional movement control order (CMCO) started on the 1st May 2020 until 31st December 2020.

3.2 Online Tools Available in Teaching and Learning

Towndrow and Vallance (2002) pointed out that the role of technology in shaping educational policy is increasing in the use of the Internet and the World Wide Web. Based on their main functions and features, the online tools are classified into twelve categories: learning/content management systems; communication; live and virtual worlds; social networking and bookmarking; blogs and wikis; presentation; resource sharing; Website creation; Web exercise creation; Web search engines; dictionaries and concordancers; and utilities. By having a computer with an internet access, students can connect with their teacher, especially, when the teacher is away. Students can always communicate with their teacher via latest technology as to-date style as smart phones as well as computers or tabs application. Meanwhile, the online tools that is used in the teaching sessions before MCO was as follows:

3.2.1 Global Open Access Learning System (GOALS)

In USIM, Global Open Access Learning System (GOALS) is an online platform provided by the university as for information access for teaching and learning session. It is a comprehensive and flexible open access software using Moodle, in which all courses offered for students in USIM has to have the blended learning participation as much as 30% of the course outline (GOALS Centre, 2016). This requirement is implemented for courses taken by the Tamhidi students of USIM as well.

Teaching and learning process via GOALS made easy especially the materials and announcement for the course can be uploaded whenever necessary. Besides, there are forum and discussions within the group circle, as well as chatting section is also available. One of the special features of GOALS is that assessment can be made for quizzes and assignment online, in which this makes test readily available without paper and pencil. Norazah et al (2010) claimed that the online test is more useful, user-friendlier and the students' pace in the tests can be monitored. In addition, the interactivity of the online test will allow the students get immediate feedback.

3.2.1 Whatsapp application

Whatsapp application is an internet based short messaging application introduced on February 24, 2009 by two former Yahoo Inc. Employees; Brian Acton and Jan Koum (Ahmed et al, 2017). Acton and Koum have developed this application when realizing that Whatsapp is an application that is capable of being the medium of communication today and interacting as a medium for disseminating information. It is used for social or personal context merely, and, in academic context as well. WhatsApp (from the English phrase "What's up?" meaning "What's new?") allows users to exchange images, videos, and audio or written messages using their Internet connection. With such features, WhatsApp has positioned itself as a superior alternative to Learners Management System (LMS) for educational setting, as these multimedia messages transmitted is convenient for academic activities and purposes.

In spite of its strong competition as iMessage, LINE, Viber; WhatsApp remains well-anchored as a market leader in messaging applications (Barhoumi, 2015). Bere (2013) examined that the use of WhatsApp among learners was positive and claimed that it was an easier way to communicate with their teachers and the rest of the class and that it was also fun. Besides that, a study conducted on the use of *WhatsApp* among learners in Spain, reported a rise in motivation and found a greater enthusiasm among the learners (Plana et al., 2013). Overall, WhatsApp has become a shared platform that enhances accessibility, encourages cooperation, and intensifies motivation to take an active part in academic assignments among learners (Bere, 2013; Chipunza, 2013).

Nowadays, announcements and statements can be spread quickly using app (short for application) installed in smart phones. For instance, in distance learning, students are able to communicate with the course instructor regarding subject matters. Traditionally, students will ask their teachers using this app on simple matters such as confirmation of class cancellation or direct mathematical calculation verification. This new environment would ease teachers to conduct classes from far. Students might want to send their assignment or essay using this app, having it completed within the class time.

3.2.2 Telegram application

Telegram is a cloud-based mobile and desktop messaging app with a focus on security and speed. It is super-fast, simple, secure and free. Telegram seamlessly synchronizes across all devices and can be used on desktops, tablets and phones alike. The difference between these two app is basically in terms of number of people in a group and storage of data (What Tech Says, 2016).

Telegram provides unlimited storage. Means all your text messages, images media files & documents will be saved on their cloud. You can log out and log in any number of times from any number of devices simultaneously without losing any data, you don't need to worry about backup & restore. You can view the active sessions and see on which devices are you logged in now. Thereby you can download any file any time anywhere. Users on telegram can log in on multiple devices at the same time and able to receive messages on all devices.

They can remember their sessions on even browsers too (Medium, 2017).

3.2.3 Skype

Skype is another service that can help teachers who are away from classroom. It is an Internet Protocol (IP) telephony service provider that offers free calling between subscribers and low-cost calling to people who don't use the service. In addition to standard telephone calls, Skype enables file transfers, texting, video chat and video-conferencing.

3.3 Tamhidi Centre Facing MCO

Previously, most private and public tertiary education institutions in Malaysia have relied on face-to-face lectures and tutorials. Although some online tools have been used blendedly, it is not enough for the teaching and learning sessions to be done completely since it limits the interaction between teachers and students.

Due to the MCO, Tamhidi Centre has faced a challenging time because the semester is already in Week 14 of the final semester 2 for cohort 2019/2020. Because of the outbreak, classes were conducted fully online starting from 16th March, but the classes were cancelled on the 18th March 2020 due to the MCO, in order to give time for the students to go home. The online classes were then continued on 1st April 2020 for 18 days and soon after that students went for their online final exams via GOALS starting from 27th April 2020. Their marks were endorsed on the 19th May 2020, in order for them to be interviewed by faculties of medicine, dentistry and built enviroment in June 2020.

The online tools that are used during and after the MCO are Google Meet, Zoom, and Microsoft Teams. Google Meet is a jam-packed application with beneficial features that will enhance virtual teaching experience and optimize distance learning. Zoom is used in synchronous class sessions, in which everyone logs in to a web conferencing system at a pre-scheduled time, are one way to create engagement and foster community in your fully online courses. Microsoft Teams is a unified communication and collaboration platform that combines persistent workplace chat, video meetings, file storage, and application integration. It is used in Tamhidi Centre after the MCO for students who registered for session 2020/2021.

3.3.1 Synchronous and asynchrorous learning

By the enforcement of MCO, the development of using online tools is a must for educators. Synchronous learning is the kind of learning that happens in real time. This means that lecturer and students interact in a specific virtual place, through a specific online medium, at a specific time. In other words, it’s not exactly anywhere, anyhow, anytime. Methods of synchronous online learning include video conferencing, teleconferencing, live chatting, and live-streaming lectures. Application of Zoom, Google Meet, MS Teams and Jitsi Meet were used by institutions for this kind of sessions (Choong 2020). Asynchronous learning will also be happening in the students’ schedule. During the course of study, lecturers will provide materials for reading, lectures for viewing, assignments for completing, and exams for evaluation, students have the ability to access and satisfy these requirements within a

flexible time frame. Methods of asynchronous online learning include self-guided lesson modules, streaming video content, virtual libraries, posted lecture notes, and exchanges across discussion boards or social media platforms (The Best Schools, 2018).

4.0 Methodology

The methodology used is a qualitative design in which through the teacher's personal observation by using online tools application in his or her teaching session. The study used on i-Tamhidi (Arabic website) was a descriptive design method. The data were recorded, written and discussed by the instructors involved in the class itself.

5.0 Results and Discussions

5.1 Online Tools Used Before the MCO in Tamhidi

Online tools has been used in Tamhidi Centre since 2015, as in Junaidah et al (2016) and Shahirah et al (2019). In an exploratory, qualitative study by Junaidah et al 2016, in which through observation, by using online tools application (Whatsapp, Telegram, GOALS, Skype, Facebook, Youtube, Gallery and Note) in her teaching session, it was found that these online tools are very useful as it can be done anywhere, and it could receive immediate feedback. The study that has been done in Tamhidi Centre on pre-university students shared the approach of using online tools for teaching session especially during the absence of the instructor in class due to medical leave. For other subjects, blended learning using GOALS was carried out by as a requirement in all faculties in USIM.

Multitudinous tertiary institutions have also adapted the use of mobile phone in their academic system; due to its approach which aids synchronous and asynchronous learning towards achieving educational outcomes (Shahirah et al 2019). One of the approaches, Whatsapp, a social mobile interaction application, is employed as a medium of mobile learning (m-learning) mainly for interactive activities especially among higher education learners. This approach connects learners to interact among them easier, faster, and better. The study used a quantitative research approach and applies a non-experimental study design that a total of 100 respondents between the ages of 18 and 19 were selected to answer the questionnaire. The data obtained show that the integration of Naqli and Aqli elements via Whatsapp application in tertiary learners' m-learning interaction as effective.

The first part of the paper is going to report and discuss the teaching process and reflections of the English language courses that involved in three different course codes (English Language I-Reading & Writing, English Language II-Listening & Speaking and English for Law); 120 Tamhidi students (approximately 1 class has 20 students) were involved within 18 weeks. In this study, as it would like to propose and share the approach of using online tools for teaching session, the teacher is the participant observer as according s/he could able to see the experiences from the views of the participants (Creswell, 2005; Philips & Stawarski, 2008).

The methodology used is a qualitative design in which through the teacher's personal observation by using online tools application in his or her teaching session. This is due to

the medical condition of the teacher herself, not being able to come physically to the classroom, since being hospitalized. The online tools that were used namely are; Whatsapp, Telegram, GOALS, Skype, Facebook, Youtube, Gallery and Notes. In addition, laptops as well as smartphones are used in this study as the medium. By using qualitative design in this study, researchers claim and that a struggle that multiple-constructed realities abound, the time- and context-free generalizations; are neither desirable nor possible, that research is value-bound, that is impossible to differentiate fully causes and effects, that logic flows from specific to general and that knower and known cannot be separated because the subjective knower is the only source of reality" (Johnson & Onweugbuzie, 2004). Below are the procedures in order to retrieve the findings as follows:

5.1.1 Before the beginning of a lesson

In an online classroom (pre covid), the attendance system was setup in three different methods. The teacher would opt one of the following methods or all of it. The first method is; the students were asked to take photos of their students' identification cards in a group of 8, and post the photo in the class designated Whatsapp group as in Figure 1(a).

The second method is; the teacher checked for attendance via Whatsapp read tool. Whatsapp will show the read status of a particular message sent by the teacher. When a particular student has not read the message, the teacher will make inquiry of the student whereabout within the Whatsapp group. If there is no information received from the inquiry. The teacher will proceed to send a private message on Whatsapp or text messaging via mobile phone number. If there is no respond received, the teacher would call the missing student. If there is still no response, the student is deemed absent. The third method to check the attendance was; the students were asked to sit in front of the camera of one of the students' laptop via Skype online video website. The teacher proceeded with a roll call. If the students were seated too far and cannot be recognized, the teacher would ask the students to come in front of the laptop's camera as in Figure 1(b).

Figure 1(a) and 1(b). Students' proof of attendance.

The lessons were able to be carried out on occasions whereby the teacher was not able to enter the classroom due to other commitments or unwell or as a further enhancement of a traditional classroom. Students had to be made aware that an online class (pre covid) is not a cancelled class but a class that is conducted differently than a traditional class. This is because the students were never exposed to an online class in government schools in pre covid era. Students were not allowed to bring smartphones or laptops to government schools. Furthermore, there was no wi-fi available at government schools back then.

A rectification to this misconception, the teacher decided not to hold an online class on one of the days that the teacher had other official commitment, as an example of a cancelled class whereby students were not able to contact the teacher via messaging or phone calls (for any type of learning activities). A traditional replacement class was made.

Fellow teachers on campus checked students' physical attendance of being in class at the beginning of a couple of an online class. This is to give the sense of presence. However, fellow teachers did not teach nor stay inside the classroom. At times, online live videos were made through Skype to check for their physical attendance. Nevertheless, it was rare to find students missing from class. This is because the students have nowhere to go in the Tamhidi building and the classroom is the most comfortable place. The teacher is able to reach 99% classroom attendance although the teacher was on a long medical leave. Both students and teacher did not have to attend replacement classes except for the 1% (university compulsory events).

5.1.2 During the lesson

Students received their lesson instructions in the form of text messaging via Whatsapp group. The lessons instructions were delivered in two different modes; the staggered stages and the one-time stage. It depended on the nature of the learning activity for the day. The first mode is the staggered stages; whereby the teacher delivered the lesson task in small bits completed within any amount of time, such as 10 minutes, 30 minutes or 50 minutes variance. Predominantly, lesson items were introduced in the form of practices. These practices would require the students to refer to their textbook for the answers. In the process of completing the practices, if a student has an inquiry about the practice, the student can ask in the Whatsapp group. The teacher will respond accordingly.

After the given practices were finished, students were instructed to type their answers in the Whatsapp group or in their smart-phones notes application. However, a lot of the practices were in the form of videos, therefore the students were required to upload their video recordings in Telegram because the application accommodates beyond a 5 minutes time compared to Whatsapp limited memory uploads. The students were required to post their answers into the Whatsapp group. The teacher would then respond to the posted answers immediately or move on to the next learning item.

While the new learning item is taking place via new practices, the teacher would prepare responses the posted tasks. However, when the teacher communicates via Skype, the teacher was able to see directly the students and was able to communicate similarly to a traditional classroom. The students' classroom is equipped with a multimedia projector; the class can connect one of the students' laptop and view the teacher on the big white screen.

The second mode is the single stage. In this mode, the teacher will deliver the lesson task at the beginning of the class time and the students are required to post their tasks at the end of the class time. Inquiries about the tasks can be done throughout the class time via the Whatsapp group as in Figure 2.

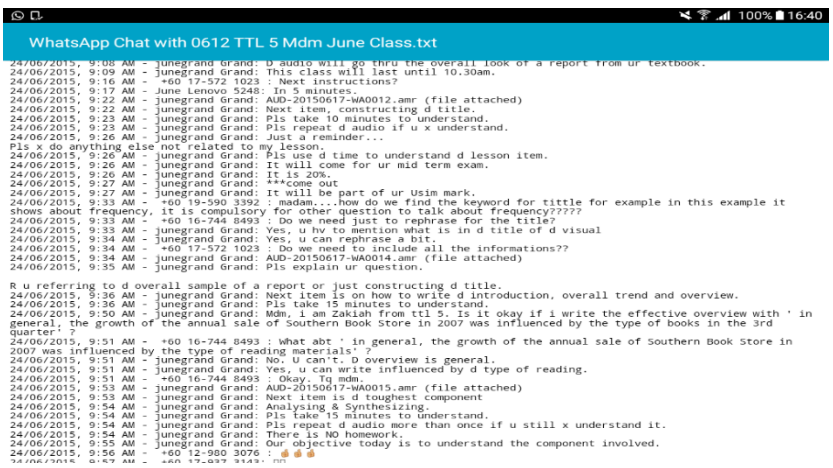

Figure 2. The conversation of the task assigned in Whatsapp group between the teacher and students

The students received feedback from the teacher in various methods depending on the nature of the tasks. For essay practice, the teacher would screenshot the essay posted by the students. It was later on marked in the Samsung tablet that is equipped with an S-pen by using the smart phone gallery editing application. After it has been marked in the smart phone gallery editing application, the teacher posted the marked essay in the Whatsapp group as in Figure 3.

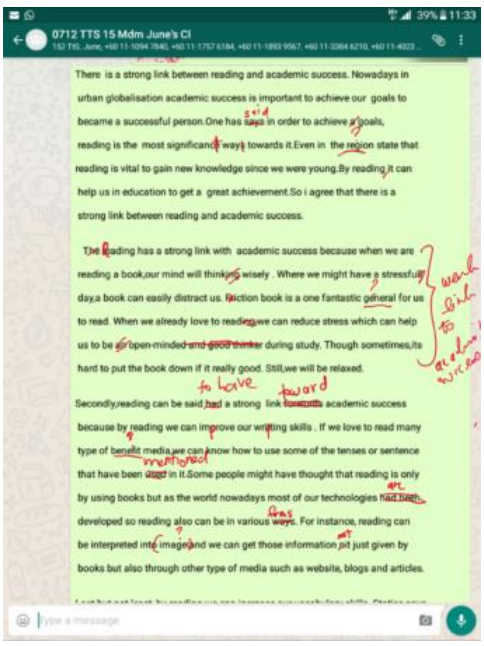

Figure 3. Marked essay practice through Whatsapp.

For reading and vocabulary practice, the teacher made comments about the posted answers in the Whatsapp group. If the tasks were completed in GOALS, the students would have received feedback immediately from the system. The teacher would also able to see each student performance on the task for every question as in Figure 4. For listening practice, the teacher gave out answers and made comments in the online video classroom. In speaking practice, the teacher made comments in the classroom or reserve it in a face-to-face meeting.

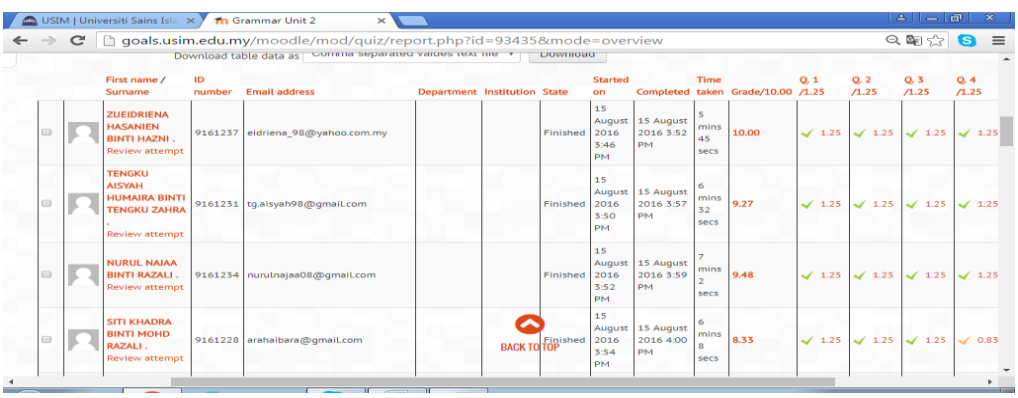

Figure 4. Evaluating via GOALS

Before the MCO, online tools were used in Tamhidi not only for Junaidah's English class (fully online), buat also for Arabic language classes (blended-mode). i-Tamhidi was developed by Hazwan & Azlan (2019). It is an educational website which is programmed

to teach Arabic language. A courseware of Arabic grammar learning was designed based on ADDIE instructional design. The website is developed on site123 platform and can be accessed through URL: https://itamhidi.site123.me.

The development of i-Tamhidi website is tailored based on the suggestions and opinions gathered from students at the initial stage of the project. This is to ensure high functionality of the website; that it should not only provide relevant learning materials to students' comprehension, but also to cater to the current needs of its users. The website is made according to the needs of the students to complete the syllabus (as reflection) for the course Bahasa Arab Ittisaliyyah 1 dan 2 (TLA 0713 dan TLA 0723). The web is used since 2018, starting with 100 students from Tamhidi Centre, and now has increased up to 500 users. The Arabic grammar was explained using the Web 2.0 application such Flipsnack, Screencast and games were also introduced to capture non-native speaker of Arabic language.

Figure 5: i-Tamhidi as an interactive platform to learn Arabic language.

i-Tamhidi website (Figure 5) is built upon four factors: a) reference books fail to spark interest, b) students perceive Arabic grammar as perplexing, c) unattractive contents and presentation of the current website, and d) lack of motivation and interest to learn Arabic grammar. As far as Arabic grammar learning among students is concerned, this website development aims to increase learners' motivation in acquiring Arabic grammar and expose them to self-learning environment. The findings show that i-Tamhidi is well-received by the students and gains very positive feedback, as it could assist users to bolster their motivation to learn as well as empowering self-learning. Explanation concerning Arabic language through Web 2.0 applications and gamification has increased their interest in learning. Moreover, later in time, we can use i-Tamhidi in strengthening online learning when the universities are closed due to COVID-19 pandemic.

Other than this website, a group of Arabic teachers have used Kahoot in class to develop students' interest and bolster desire in studying this language. Kahoot is considered as one of the best practices to support teaching and learning session through game-based learning.

Kahoot provides teachers an opportunity to create quizzes and discussions that engage students in a competitive game play format. Moreover, they used for assessment purpose or exercise in meaningful and interactive ways. Furthermore, Kahoot gives lasting impact on the learners' memory. This method is proven more effective in comparison with traditional ways which have been regarded as becoming dull and dry. While Kahoot is not a social media tool, there is a social element that provides fun learning experiences in educational systems, businesses, as well as in social settings, such as birthday parties, weddings, and larger social events. Kahoot does not collect any personal information but instils a fun way to connect with the audience.

It was found that Whatsapp is an effective tool as students show a favourable attitude towards WhatsApp m-learning (mobile learning) with the integration of Naqli and 'Aqli knowledge (Shahirah et al, 2019). They found out that WhatsApp m-learning is a valuable medium of interaction; a valuable learning aid as well as of its content of the message conveyed. Learners gave preference to WhatsApp m-learning interaction with the integration of Naqli and 'Aqli knowledge and are willing to continue using such approach in their learning session.

Other than English and Arabic language, other core subjects in Tamhidi Centre has been using GOALS as a requirement in teaching as it is listed as a compulsory task. Every semester, course and reminders were given to teachers in order to achieve 30% blended-mode using GOALS. For example, in Chemistry I and II, test and quizzes are carried out via GOALS. Using this method, teachers can generate the results easily and less paper is needed for printing. Figure 5 below shows a screenshot of an activity in Chemistry lesson.

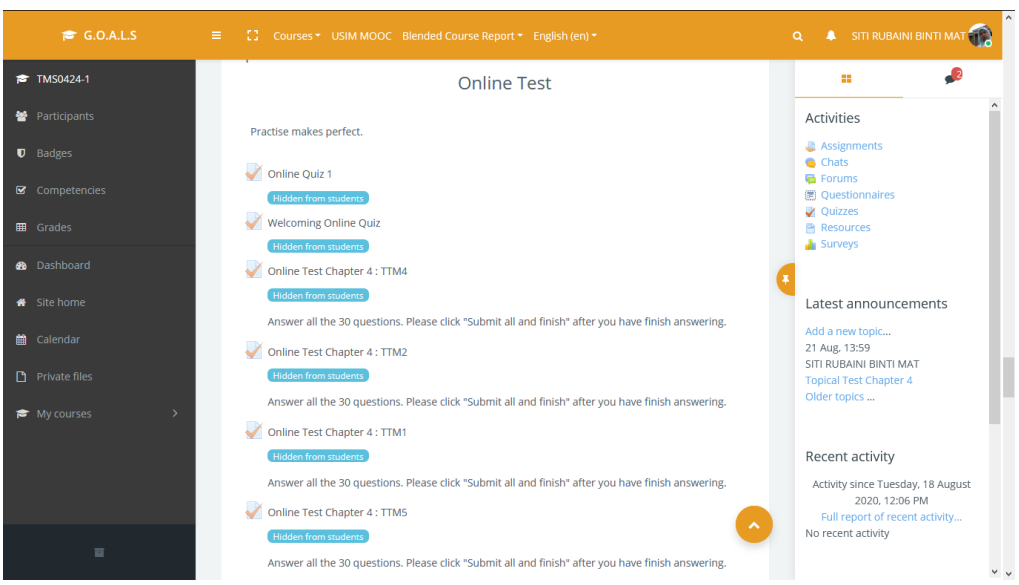

Figure 6: An example of quizzes performed for students to carry out for the Chemistry subject.

5.2 Online Tools Used During MCO in Tamhidi

Starting from 1st April 2020, the teachers of Tamhidi Centre were prepared with asynchronous learning materials in the form of lecture videos, slide presentation in Telegram channels, voice explanation in Whatsapp group and more. Most of the lecture videos are made using Screencast-o-matic application which can be used with limited feature from the web for free. For the Information Technology subject, the instructor tried using Zoom but the attendance is not a hundred percent, since all student are already at home. Student from rural areas has difficulty connecting to a good network, whereas B40 students lack of funding to buy data. To overcome this hurdle, USIM has provided an allowance for the amount of RM105 to all students in order to help them in terms of financial difficulties.

In the short period of time, all classes were conducted fully online synchronous and asynchronously, whereby teachers used Zoom, Telegram channel, Whatsapp group to reach students all around the country. A group of students who are not able to reach home stayed at Kolej Kediaman 1 (KK1) undergo their classes in their respective hostel rooms. Figure 6 shows an example of a lecture content used using the Whatsapp application for Tamhidi of Medicine (KTM) and Tamhidi Science and Technology (KTS).

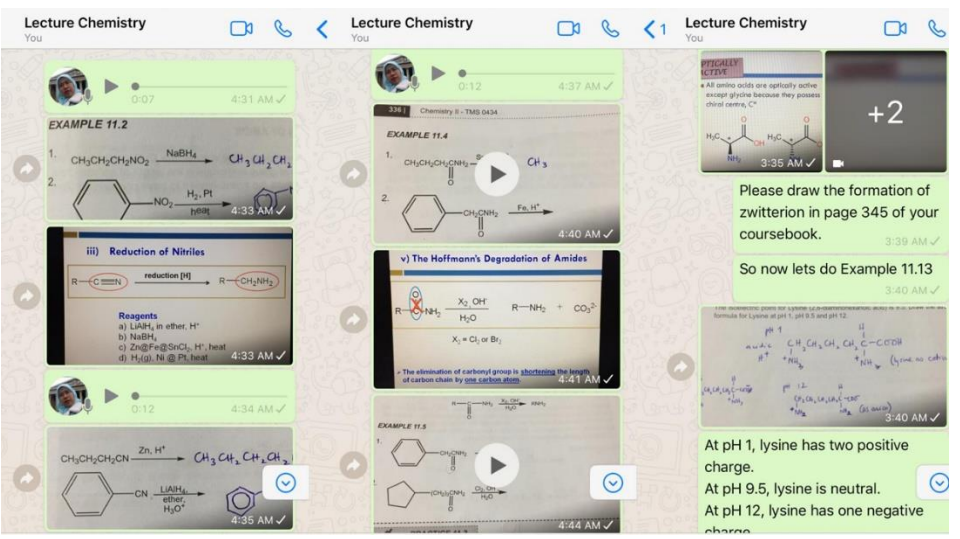

Figure 7: Example of materials prepared for lecture carried out through Whatapps.

Figure 8 shows an example of a group in Telegram for conducting a lecture on Organic Chemistry for Tamhidi of Dentistry (KTD) and KTS. In the Telegram channel, there can be lecture slides, voice recording on the lecture slides, MP4 videos, GIF of reaction mechanism and also typed and handwritten notes from the teachers.

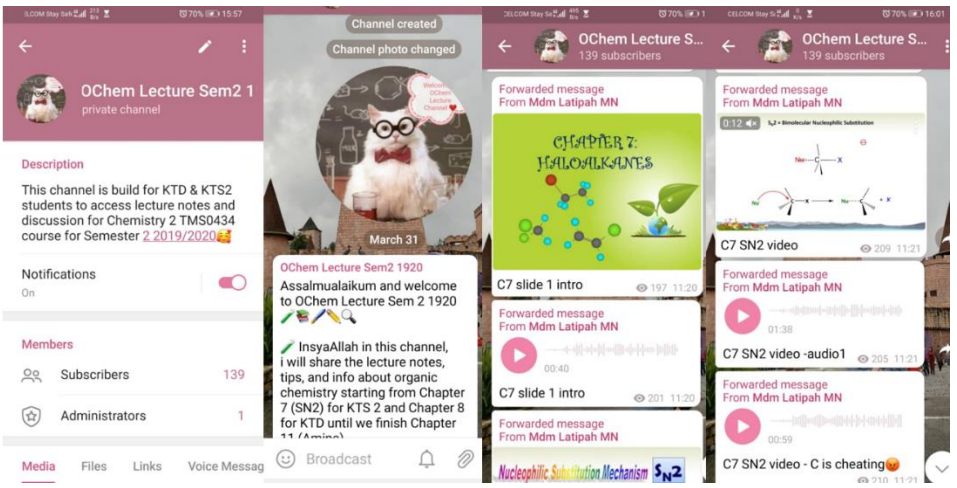

Figure 8: Example of materials prepared for lecture carried out through Telegram.

Specifically, for chemistry subject, there are 2 more experiments that has to be learnt. Luckily enough, during a workshop for producing the laboratory manual, shots of video were taken during the process. The video recordings were compiled and made up to become a teaching virtual laboratory lesson. Upon watching the video through Youtube, they are able to fill in the lab reports attached in their lab manual.

The classes were carried out during the timetable that was arranged before the MCO, when the classes were held face to face in the classroom. During the online class, for any instruction that the students did not understand, they could scroll up in the Whatsapp group or Telegram group and read it over again. Teachers have to be careful in not giving the wrong instruction because everything is recorded and the students could use it as evidence. The teacher's feedbacks on the practices were also recorded in the Whatsapp group. This is very convenient, because the marking could be done anywhere, and immediate feedback can be given in the Whatsapp group without waiting for the next class meeting.

The items posted in the Whatsapp group were also served as notes for the students to revise. For English lesson, this in particular is the vocabulary practices, which are very useful for the students to refer to in their other reading materials; as well as the marked essay. For core subject, without downloading the material to computers, they can read and study outdoors since the notes are in their respective smartphones.

In regards for keeping record of the student's attendance, every teacher has a different method. Some trace the student using the Telegram application, since the app shows participants who are online at the real-time. For chemistry subject, the attendance was taken using the Google forms. Before every meet or lesson, students will be given a link. They will have to fill in the form and the time when they did it was recorded. Figure 9 shows an example of the form and data extracted from the form.

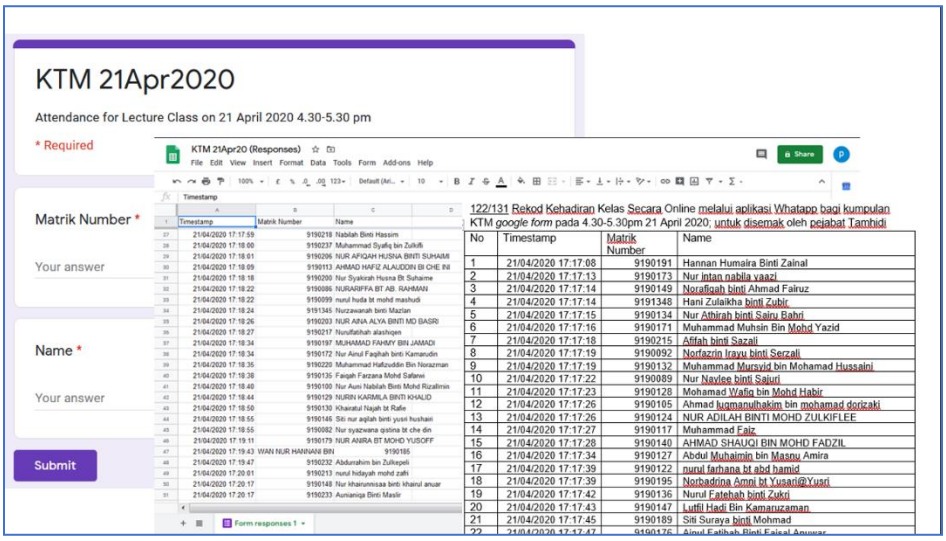

Figure 9: An example of a Google form, the Excel sheet extracted from the Google form, and a Microsoft Word table which recorded the attendance of a lecture class for Tamhidi of Medicine.

Apart from teaching and learning, the other important part of any course is to evaluate the students. Assessments have to be done online as well since the final exam cannot be done in the exam hall. The administration of Tamhidi Centre together with the Committee of Academic Quality has been working hard to come up with the best solution. A solution that is simple and easy enough for the teachers to fulfill within 2 weeks, and an exam which is valid enough for students to do at their respective homes.

After taking a lot of factors into consideration, it was agreed for the final exam to be carried out via GOALS using MCQ questions, with most of the subject having 30% weightage on it. Another 20% is evaluated through individual assignment whereby student will have to answer 3 questions and submit the answer, also via GOALS. The online classes were conducted for 18 days (about 3 weeks) and then students went for their online final exams via GOALS starting from 27th April 2020. Figure 9 shows an example of a GOALS page set up by instructors of chemistry subject. Their marks were endorsed in a Tamhidi meeting on the 19th May 2020, in order for them to be interviewed by faculties of medicine, dentistry and built environment in June.

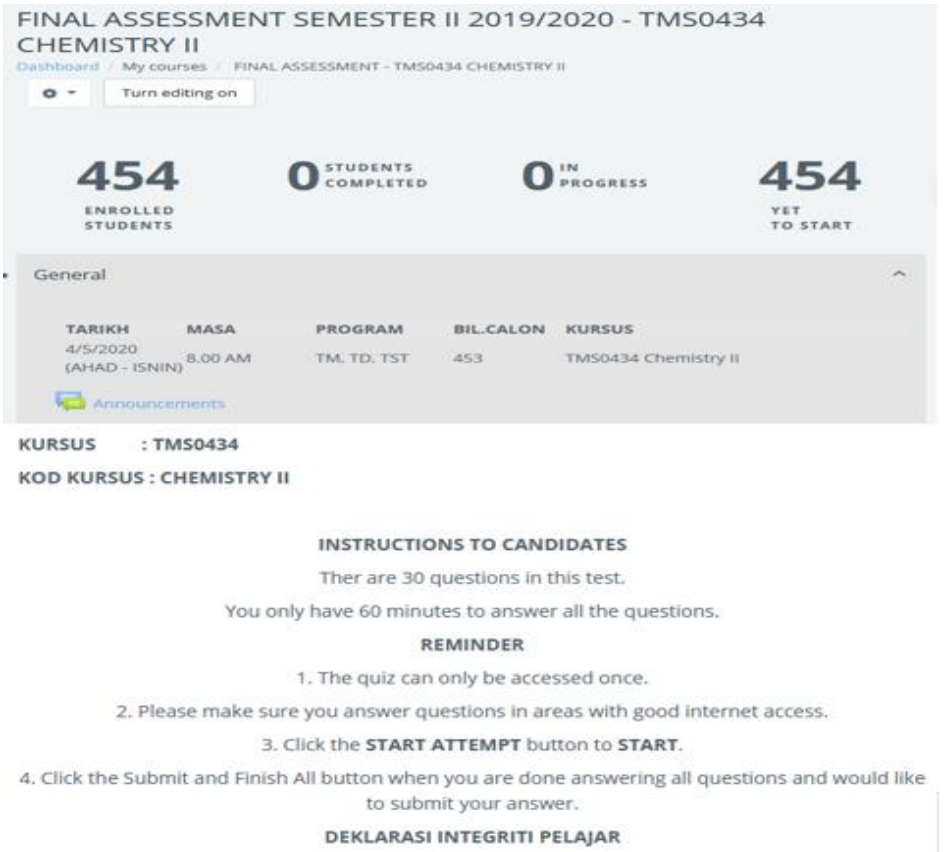

Figure 10: The MCQ question were set up by random-picked question 30 out of 110; according to level of difficulties.

The online tools used for USIM's lecturer and student in implementing digital class session fully online was developed by SDEC using GOALS. A Telegram group was set up to allow open discussion and Q&A between lecturers and SDEC. The SDEC personnel was helpful and attend to the enquiries almost 24 hours. Figure 10 shows a screenshot of the Telegram group.

Figure 11: Questions from lecturers got a prompt response from the personnel of SDEC.

5.3 Online Tools Used After MCO 1.0 in Tamhidi (Current Time)

Tamhidi Centre has received new intake of students on 28 July 2020. The registration took place online from their homes and the new students undergo virtual *taaruf* (orientation) for 5 days. Starting from 3 August 2020, these new students came to the accommodation college, Kolej Kediaman Nilam Court (KKNC) for the period of five days, in order to avoid unnecessary physical contact. The parents only dropped their child together with their belonging at the drive through pathway, for sanitation. Their children will become the first cohort to undergo a Tamhidi programme using standard operation procedure (SOP) due to the pandemic.

Since this is the second cohort involve since MCO, the teachers are ready with knowlegde and experience to teach using online tools in an optimum capability. During the break between semesters, Tamhidi academics went on online training almost every week, joining other faculties, to learn how to use Microsoft Teams, and other online tools. Microsoft Teams was the top priority training course to attend because students will be provided with a Microsoft account by the university once they register. Planning the for the semester was done very early, two course outline was developed by course coordinator (CO) for each subject; and ordinary and ammended ones. The ordinary CO was made and approved by the MQA board for implimentation starting this session, but as the pandemic came, the CO has to be ammended in order to give way for online classes.

For Chemistry Unit, a workshop for making videos on laboratory activity was carried out on 21 July 2020. Out of 6 experiment listed in the laboratory manual, 4 will be done by students face to face in the lab, so video showing the procedures were made so that students can watch before coming to lab. One experiment will be done virtually, and one more will be done as an activity in lecture class because it involves chemistry molecular set. The advantange of having the video is so that students having to be physically-distanced in the lab, can understand prior to coming into the lab. Often students were asked to read and prepare a flowchart, but only a small number of students obey. Often, students had difficult time starting the experiments because they are not ready. By making the videos, it is hoped that they will find it useful and easy-to-follow. Figure 12 shows the shooting of videos using Tamhidi's digital camera.

Figure 12: The making of laboratory videos for teaching.

During a regular beginning of a normal semester, teachers wait to meet students on the first day of class. But, for this semester, effort was made to contact the students before the first class. Telegram group were set up three days before, and group leaders were selected very early. This is to ease the communication and flow of instructions. One group consists of only class leaders were set up, to make sure all group leaders understand any announcement before passing it to their classmates. For last year, there are only 5 lecture groups, so teachers can privately text the class captain for any need, but for this semester since there are 16 lecture groups, there must be an efficient way to brief the leaders.

On the first week of lecture, classes started by using Microsoft Teams. Some teachers made it compulsary for the students to turn on the camera, but some gave leniency. Administrators went to check up on the students during the first week. A survey was conducted to find out the need for computer lab in Tamhidi. At least 500 students claimed they came to USIM bringing from home a laptop of their own. Hence, in terms of security, KKNC USIM in particular need to pay extra attention for storage of expensive an valuable asset which can be an issue. For previous cohort, students bring in laptops only when being given assignments but today, they are equipped with one in the very beginning. Figure 12 shows Tamhidi students in their apartment in KKNC having online classes using their personal computers.

Figure 13: The class environment in one of the apartments in KKNC recorded by Tamhidi administrators.

Students of Tamhidi were provided with streaming of wi-fi connection from USIM. Before registering to university emailing accounts (raudhah), the students mentioned that the best mobile data provider varies between Maxis and Celcom for all seven buildings in KKNC. Students may have to use their personal mobile data during the first week of class, since medical check-up were conducted within the week. They might be in the bus, or waiting for their turn in Klinik Pakar USIM.

In terms of communication, students for this session seems to be more mature in talking to teachers, online. Apparently they were given talks and briefing during the taaruf week on the dos and don’ts when texting the instructors. Teachers noticed that they introduced

themselves before conversing and they stated from which group they are from. This positive observation is an achievement, in terms of upgrading the online education environment. Figure 13 shows a screenshot of a lecture using the Microsoft Teams. It is obviously observed that student, using online tools, are not shy when they can't get the point or instructions straight away. They frequently ask questions regarding the task given, and they provided with references, usually a Google search on that sub-topic. This is one the the benefit having classes online. Students are willing to communicate well when using a device that suited their preference. In contratry when doing a face to face lesson, students are more quiet and afraid to ask questions. On the teachers' side, having online classes with the camera turned on, can illustrate how well the students can understand the lesson. But if students turned off the camera, there will be no facial expressions from the students, making the class seems dull and plain. This is the reason why, students tend to ask questions a lot during online classes.

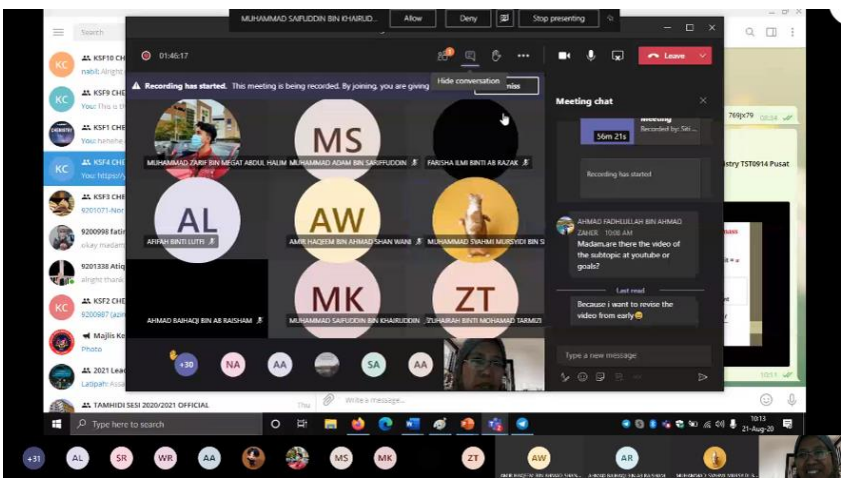

Figure 14: A lecture on General Chemistry was recorded by the teacher in charged.

Starting from Week 2, face-to-face classes can be carried out for all subjects, according to availibility of lecture hall and classroom and course schedule planned. For general chemistry, before students come for lecture in the lecture hall, they were advised to watch lecture videos on that particular lesson in Youtube. It will take only 10-15 minutes time while travelling on the bus to the campus in the morning. This is to give prepare their minds and make them connect it with background knowledge. For example, for the subtopic concentration measurement, in SPM syllabus, they have learnt about molarity. So in pre-university level, they need to know more. We add molality, mol fraction, percentage by mass and percentage by volume. In short, by using the knowledge on molarity, they should be able to understand the other measurements easily.

Figure 15: Students of KSF1 is seated physically distant in a lecture of General Chemistry.

Physical distancing in face-to-face classes is as shown in Figure 15. The original capacity of this lecture hall is 120, but after MCO it is now used for a group of only 45 students. They need to wear the mask at all times during the class. Students sit in alternate seats, making space for their belongings. Often students carry as much as three bags for a day's worth of class and it is not comfortable for the students to sit very close to each other. By having this physical distancing, it was observed that the students are comfortable and more aware of their assets.

Figure 16 shows an online class, carried out for a group of Tamhidi students in DKS3 of Tamhidi Centre. They have to take the bus to the campus as early as 7.30 if they are having any face to face lecture or laboratory sessions, even it the face to face class is at 2.30 pm. So they will be having online classes in the lecture hall provided in the timetable.

Figure 16: Students having online lecture in the classroom.

Figure 17 shows students of KSF3 doing the first experiment for general chemistry. By having physical distancing in the laboratory, one experiment has to be carried out for two weeks straight for all 718 science students. Although it will take more time and effort, especially for the lab assistant to set up the lab, but students when in small group will learn better. Every individual will have to participate in the lab work, moving here and there in getting the chemical reagents and preparing the samples. For this intake of students, not much confusion happened during the first day of class, since the process has been explained well in the lab video made by the teachers. In assessing students' psycomotor skills, they need to be able to perform simple experiment such as titration and dilution.

Figure 17: Students doing titration for an experiment in the laboratory.

For science subjects, it is a challenge now that the mode of teaching is using online tools. Some cannot see how laboratory work for science students can be handled online. Here, we proved that even the lab can be done virtually (for certain experiment), and then we facilitate students' understanding by providing video, so that when they are in the lab, they

can do the experiment well with minimal supervision. Tertiary education for science stream students are possible during MCO, provided that the facilities and personnel in the laboratory is complete and enough.

6.0 Conclusion

As a conclusion, it can be said that online tools have revolutionized the way classes in Tamhidi are being conducted. Before the MCO, teachers have embraced the usage of online tools in classroom. The fact that students nowadays possess smart phones and most of them have laptops. Online tools such as Whatsapp and Telegram is now a norm in any Malaysia's secondary school education system. Instead of shying away from the technology or barring the students from its usage, full use of its ability should be applied in higher stage of education.

Online tools are beneficial for academicians who are constantly sick, suffering from chronic diseases, require rigorous medical intervention and also to those who have to care for their family members, such as their own children sickness or parents with terminal diseases. The reasons for not being able to be present in a traditional classroom are a plenty, not just for personal purposes but also official matters such as giving out talks in conferences. Before the MCO, the option for this category of academicians is not available; classes need to be postponed no matter what. But, during the MCO, all online tools have been used, from texting using Whatsapp, to video conferencing via Zoom. After the MCO, as new thevcohort is registering, with an increase of 45.3% student intake. Using these tools, educator are determined and confident that students are within reach.

This proved that the education system nowadays has come to a new era whereby physical being is not a must when it comes to delivering and receiving knowledge. A new student registering from Labuan for example, can undergo orientation from home, having online classes at home, and went to Matriculation College facilities in Labuan for lab work, and still can become a Tamhidi student, and then pass with flying colours without coming to Nilai campus of USIM. It is hoped that Tamhidi Centre will endure all the challenges and hurdles in continuing excellencies using the best of online and offline tools provided by the university. Starting from as small as 30 students in 2004 to as much as 1244 students in 2020, it is time to acknowledge the role of Tamhidi in developing the shape of USIM.

Acknowledgement

This article is a paper written by a group of teachers in Tamhidi Centre to document and record the process of teaching and learning using online tools for the session of 2018/2019, 2019/2020 and 2020/2021. The Authors would like to thank the administrators of Tamhidi Centre.

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