



## Performance Levels and Perspective of Graduate Learners’ on Fully Online Learning During Covid-19 Pandemic: The OUM Experience

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### Abstract

*Open University Malaysia (OUM) is a leading open and distance learning institution in Malaysia that offers its programs in blended mode. The blended mode of learning comprises self-managed learning, face-to-face tutorials, and online forum. Through its learning platform, named ‘myINSPIRE’, OUM has successfully offered some of its programmes fully online. The outbreak COVID-19 in early 2020 has pushed OUM to offer all its programmes fully online, including programmes for graduates. Measures were taken to improve teaching and learning support online. Part of the efforts included having weekly e-lessons and e-tutorials, as well as online exams. Learners have been exposed to new learning experiences where they faced many challenges. This study is conducted with the aim to investigate how these changes have affected learners’ performance and their perspective towards fully online learning. A total of 143 post graduate learners enrolled in OUM under the Cluster of Applied Sciences participated in this study. The readiness for change model used in the study is based on Technology Acceptance Model (TAM). The model applies perceived usefulness and perceived ease of use to measure user acceptance of technology. The findings indicate that overall, the graduate learners have an acceptable level of readiness for change and are able to adapt and continue learning online despite facing some issues and challenges. It was found that the performance of the learners pre- and post- lockdown seemed to be comparable. Nevertheless, there is a need to find ways to improve and better tailor the online learning environment for our adult learners so as to make their fully online learning experience more rewarding.*

**Keywords:** *Open and Distance Learning, Online Learning, Innovative Pedagogy, Graduate Learners, New Norms*



## **Introduction**

The COVID-19 pandemic has a tremendous impact on the lives of all human beings across the world. It has caused disruptions to the lives of people and caused daily activities to come to a standstill in many parts of the world. The global impact of COVID-19 pandemic is multifaceted and is clearly manifested in almost all sectors, particularly the health, economic and education sectors. The pandemic has forced global shutdown of several activities, including educational activities, and this has resulted in tremendous crisis-response migration of universities with online learning serving as the educational platform. Almost all countries have implemented schools and universities closures and most of universities have enforced localised closures (UNESCO, 2020). In view of this situation, the Government of Malaysia has declared a Movement Control Order (MCO), including an order of closure of all educational institutions since 18 March 2020 due to the pandemic. The nationwide lockdown was imposed in order to control and reduce the number of people infected with the virus. The lockdown has brought about various challenges in the day-to-day activities in the country and the higher education sector is no exception. All academic and non-academic activities of all universities were disrupted to a great extent.

Open University Malaysia (OUM), the premier Open and Distance Learning (ODL) university in the country, was no exception resulting it to temporarily postpone all its teaching-learning activities, including assessments and examinations and graduation. This is also true for all higher education institutions that have been forced to close and continue to conduct their teaching and learning online. With the movement control order, the face-to-face tutorials had to be cancelled. To allow teaching and learning to continue, several adjustments had to be made in the delivery of content and assessment of learners. Among the changes were the switch to online tutorials to replace the biweekly face-to-face sessions, incorporating weekly online e-lessons, and also having final exams online. OUM has since continued to offer all its graduate courses fully online.

The purpose of this study is to look at the perspectives and acceptance of learners towards fully online delivery at OUM and to find out the challenges that they faced. The academic results of the learners prior to MCO will be compared to the results of the learners during this fully online delivery. This is to support the findings of the perspectives of graduate learners and compare their performance levels before and after the switch to fully online mode.

## **Literature Review**

Open University Malaysia is the first open university in the country that adopted a blended learning approach since its inception. This approach is commonly used by open and distance learning higher education institutions and according to Melton et al., (2009), it has been found to be helpful in increasing retention rates. Since day one, OUM's mission was to widen access to quality education and to provide lifelong learning opportunities by leveraging technology, adopting flexible modes of learning, and providing a conducive and engaging learning environment at a competitive and affordable cost.

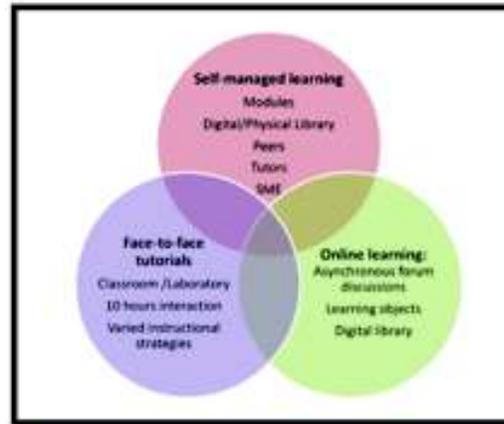
**Figure 1***OUM Blended Learning Mode*

Figure 1 shows the blended mode at OUM that promotes self-managed learning supported by face-to-face instruction and online learning. Face-to-face tutorials were held bi-weekly at OUM learning centres throughout the country. Learners have the opportunity to physically meet their tutors and have discussions on the course and assessment related matters.

**Figure 2***OUM Support for Online Learning*

Figure 2 above shows the support for online learning at OUM. Through the use of OUM's learning management system, myINSPIRE, learners can participate in asynchronous forum discussions with their respective e-tutors and peers. Learners can access downloadable e-modules, i-lectures, e-content and also access the digital library. In 2019, OUM began introducing e-lessons in some of the courses. The objective of this weekly e-lesson is to enrich learners' learning by referring to related open educational resources (OER) videos, followed by discussion questions, and self-check quizzes pre- and post e-lesson. In 2020, OUM launched its official mobile app, myOUM, which allows instant access to the latest announcements. Also, learners are able to get information on their courses, assessment, assignment, lecture/tutorial timetable and exam timetable.



With the MCO announced by the government, OUM made the decision to implement fully online learning for all academic programmes offered by the university. With the move, all courses were required to have e-lessons and e-tutorials. e-Tutorials are one hour online tutorial sessions conducted via Google Meet to substitute the face-to-face tutorials used in the blended learning mode. Each e-tutorial session is recorded by the e-tutor to be shared with all the learners in the course. Learners have the flexibility of accessing and viewing the recorded sessions at any time, in case they were unable to attend the live sessions.

In recent times, research on students' perceptions and their expectations from e-learning has been conducted by several researchers (Armstrong, 2011, Biswas et al., 2020). The "National Center for Education Statistics" has reported the growing requirement of e-learning due to its increased acceptance recently. Several studies indicate that most of the students enrolled in online courses are satisfied with the mode of learning. However, studies also reveal that perceptions of learners are affected by a host of factors (Shrestha et al., 2019, Salloum et al., 2019, Pérez-Pérez et al., 2020). Age, gender, prior knowledge of computer literacy and individual learning styles are some factors that are vital predictors of technology acceptance by students. There exists ample literature which discusses the theories of "technology acceptance" to study students' perception (Al Kurdi et al., 2020).

There have also been recent studies that highlight the issues and challenges faced by university students (Mohd Yusuf & Ahmad, 2020, Nassr et al., 2020; Amir et al., 2020; Al-Rasheed, 2021) who have to take classes online. The common obstacles and challenges faced include accessibility, unstable internet connections, time management, technical difficulties, online content, and virtual learning environments. However, these studies involved undergraduate students.

Choong (2020) in her paper discussed assessment hurdles especially for examinations, as it is a major part of tertiary education. These examinations were usually held in examination halls or rooms, but due to COVID-19 pandemic restrictions, students are not allowed to attend. Universities cannot defer these examinations, offering online assessments instead. This method has its own problems as students are prone to cheating when they are not monitored in person.

El Said (2021) looked into the performance of business students at a university in Egypt and compared pre and post pandemic grades of students; where the first group completed the course via face-to-face and the second completed the same course through fully online mode. The study also looked into student satisfaction with the university's distance education portal used during COVID-19 lockdown. The study found no significant difference between the two groups. Despite the changes and challenges with online education, the students' grades were not affected.

Higher education institutions faced many challenges during the COVID-19 pandemic, in their teaching and learning activities as well as conducting assessments remotely. Several main challenges were identified as academic dishonesty, infrastructure, coverage of learning outcomes, and commitment of students to submit assessments (Guangul et al., 2020).

Studies on graduate students' performance and perspectives towards online learning during the lockdown due to COVID-19 are limited and this study attempted to do as such.



## Research Objectives

The objectives of this study are two-fold: 1) to investigate the perspectives of graduate learners towards the switch to fully online; and 2) to compare the performance level of graduate learners before and after the switch to fully online mode. The study seeks to answer the following related questions:

- What are the tensions, frustrations, misinterpretations, and confusions faced by the learners while engaged in their courses during the period of COVID lockdown (fully online delivery)?
- How is the performance of the learners prior to the period of COVID outbreak (blended mode) compared to their performance during the period of COVID lockdown (fully online delivery)?

## Research Method

In order to investigate the perspectives of OUM graduate learners on fully online learning, we used a quantitative approach. Data was collected using a questionnaire to gather information on the levels of readiness and perception of the learners. To further understand the data collected, the data was categorised under five categories: perceived personal competence, perceived usefulness, perceived ease of use, computer self-efficacy, and organisational commitment. To look at performance, data on learner performance was obtained for the semesters prior to the lockdown and after the lockdown; specifically, for the six semesters before the switch to fully online learning and three semesters after the switch. All of the masters' programmes at OUM are for a duration of two years.

## Sampling Procedures and Participants

The target population of this research was graduate learners from the Cluster of Applied Sciences at OUM. The sample size of this study is 143 respondents from 6 different graduate programmes within the cluster: Master of Facility Management (MFM), Master of Information Technology (MIT), Master of Nursing (MN), Master of Occupational Safety and Health Risk Management (MOSHRM), Master of Quality Management (MQM), and Master of Project Management (MPM). All of the programmes have received full accreditation from MQA. This study used a purposive sampling method to select the targeted respondents which are the graduate learners from the Cluster.

## Research Model

The first part of the study used a model based on the Readiness for Change Model by Kwahk and Lee (2008) which is based on the technology acceptance model (TAM) (Davis, 1989). TAM uses technology acceptance based on psychological factors. According to the TAM model, Perceived Usefulness (PU) and Perceived Ease of Use (PEU) are two essential factors that affect user's acceptance of any type of technology. Kwahk and Lee have added two additional factors for the readiness for change: perceived personal competence and organisational commitment. Several multidisciplinary studies have used TAM as a grounding framework, especially for course management systems usage and satisfaction with online learning (Arbaugh, 2010). Maheshwari (2021) has also explored student perceived enjoyment (satisfaction) which affects their online learning, using ICT infrastructure and internet speed and access.



The model used in this study includes the following factors for the readiness of change: perceived personal competence, perceived usefulness, perceived ease of use, computer self-efficacy, and organisational commitment; as shown in Figure 3.

**Figure 3**

*Research Model*



## Questionnaire

The instrument of this survey included items that were divided into seven (7) sections: Current State of Readiness, Learning Management System, Course Content, e-Tutorials, Online e-Tutors, Student Support Service and Fully Online Courses. Out of the 686 online surveys distributed, about 143 (20.8%) responded to the survey.

The sections were tagged based on the following categories (see Table 1):

**Table 1**

*Categories for Questionnaire Sections*

Categories	Sections
Computer Self-efficacy	Learning Management System (LMS)
Perceived Ease of Use	Course Content
Perceived Usefulness	Fully online courses
Perceived Personal Competence	e-Tutorials
Organisational Commitment	Online e-Tutor and Student Support Services
Readiness for Change	Current State of Readiness

For the second part of the study, data on the performance of the learners were obtained from OUM Assessment and Examination Department (AED). The results of learners for equivalent semesters during the normal semester (Blended mode) and the 'lockdown' semesters (Fully online mode) were analysed and compared.



## Findings

Out of the 143 who responded, 30.77% were learners enrolled in the MOSHRM programme, 23.78% in MQM, 20.28% in MPM, 12.59% in MIT, 9.09% in MN and 3.50 % in MFM. Furthermore, 46.15% of the respondents were female learners, and 53.85% were male learners. 47.55% of the respondents were in their first year of their programme, while 52.45% were in their final year. Only 6.9% of the respondents were in their final semester.

### Findings on Current State of Readiness

We tried to look into readiness for change by focusing on positive attitudes towards items that would reflect learners' readiness as an online learner. Learners were asked to rate on: having reliable connection for accessibility; their willingness to put in time for their online course and how well they are able to manage their time; their willingness to use online tools and the university learning management system; whether they were equipped for video conferencing; and how comfortable they were being online and surfing the Internet.

Out of the 143 respondents, 80.4% agreed or strongly agreed that they were good at managing their time. 3.4% rated otherwise. 94.4% agreed or strongly agreed on their willingness to use online tools and the university LMS, myINSPIRE. Only one learner strongly disagreed on the matter. Meanwhile 86.7% of the respondents agreed or strongly agreed that they were equipped for video conferencing with their tutors and course mates. With respect to having reliable connection, 80.4% agreed or strongly agreed, while 6.9% rated otherwise. In addition, 95.1% agreed or strongly agreed that they were comfortable surfing online.

### Findings on Learning Management System (LMS)

To be able to engage online, learners at OUM must access and use OUM's learning management system, myINSPIRE. Learners were asked to rate on the following: ease of access to and within myINSPIRE; user-friendliness of the system; and ease of communication with their tutor and coursemates via the discussion forums. This allowed us to look at the self-efficacy of our learners in their use of computers and the LMS. The data showed that 77.62% of the learners agree or strongly agree that OUM myINSPIRE is user-friendly and 81.8% of the learners agree or strongly agree on easy navigation. OUM myINSPIRE is Moodle based and is equipped to support fully online learning. Learners must be able to use the platform for their learning. A study done by Kasim and Khalid (2016) points out the critical factor that impacts learner satisfaction is LMS features that meet learners' needs and facilitates its use. They emphasised the systematic and interactive elements in the LMS which, supported by its flexibility and learner-centeredness, are able to promote more meaningful learning experiences for learners.

### Findings on Course Content

Being technology savvy is an added advantage since learners who are technologically inclined will find that they could easily look for learning materials and follow the e-learning content provided. Thus, this feeling of ease will benefit and give a positive impact when the learners interact with the content, e-tutors and peers in the online learning platform. In relation to course content, items to be rated were on online modules/e-books, videos and e-lessons. Initially, OUM introduced e-Lessons in some courses prior to the pandemic. With the switch to fully online, e-lessons were quickly developed for all the courses in all programmes offered by OUM. Each course would have 10 e-lessons that come with a series of videos (OERs), followed by discussion questions to be discussed in the forum discussion



area, and two sets of online quizzes (pre and post) for learners to do self-checks. Thus, it would be meaningful to find out if the learners found the new e-lessons useful. 82.5% of the learners agreed or strongly agreed that the e-lessons were useful to them while 4.89% of the learners did not agree or strongly disagreed that the e-lessons were useful. The rest remained neutral.

### **Findings on e-Tutorials**

OUM learners have always been online learners from day one, where self-managed learning was conducted via the online forums with study materials obtained from the digital library. They have a remarkably high level of perceived competence in their online learning, and as graduate students who have been working longer, they use their time well during the e-tutorials to gain knowledge and other functional skills.

When the pandemic hit and all face-to-face tutorials were cancelled, OUM introduced e-tutorials. This allows for virtual face-to-face interaction between tutors and learners. The one-hour weekly e-tutorials are scheduled by the e-tutors and conducted via Google Meet. The live sessions are recorded and made available to the learners. Learners who are unable to join the e-tutorials during the scheduled time can access and view the recorded sessions at their own time. Respondents were asked to rate on the following: scheduling of the e-tutorials and their ability to attend the e-tutorials; the length of the e-tutorials; the number of e-tutorials held; the helpfulness of the e-tutors; and whether they felt the e-tutorials gave added value to their online courses. It is important to know whether the learners felt that the e-tutorials were helpful and added value to their courses since the e-tutorials were meant to replace the face-to-face tutorials in blended mode. Based on the data collected, 67.13% (96) of the respondents either agreed or strongly agreed that they didn't have problems attending the e-tutorials scheduled for their courses and 11.88% (17) indicated otherwise. It was encouraging to see that 86.7% of the learners agreed or strongly agreed that the e-tutorials added value to their courses.

### **Findings on Online e-Tutors**

Prior to the switch to fully online mode, tutors were appointed to conduct bi-weekly face-to-face tutorials. Online tutors, known as e-tutors at OUM, were appointed to continue providing support to the learners online in the absence of the face-to-face tutorials. With the switch to fully online, only e-tutors were appointed to guide and provide support to the learners. Respondents were asked to rate on whether they felt the e-tutors were qualified (and knowledgeable, helpful, provided sufficient feedback and guidance, prompt at responding to questions and forum discussions, provided supplemental handouts, created a climate of trust and openness, and maintained professionalism in the virtual classroom). Online forum discussions are based on delayed responses. e-Tutors are expected to be responsive and respond to learners within reasonable time. About 88.11% (126) agreed or strongly agreed that their e-tutors were helpful and 82.51% (118) of the respondents agreed or strongly agreed that the e-tutors were prompt at responding to questions and forum discussions. Only 3.49% (5) disagreed or strongly disagreed on the matter.



## Findings on Student Support Services

Student support services at OUM have always been online even before the lockdown. It is important that the services continue to be made available to the learners via online. Respondents were asked to rate on the following: ease of submitting queries or complaints, getting technical support, getting advice in planning courses, getting additional tutoring support, getting counselling services, getting support from OUM Alumni learners, as well as support from Learning Centre staff. 79% of the respondents agreed or strongly agreed that they could easily get technical support; 57% agreed or strongly agreed that they could get additional tutoring support for their courses; 75.5% agreed or strongly agreed that the learning centre staff were reachable and available for support; 81.1% agreed or strongly agreed that they could easily submit a query or complaint to OUM; and only 35.6% of the learners agreed or strongly agreed that they are in touch with OUM Alumni for support.

## Findings on Fully Online Courses

A system that is used as an online learning platform must be useful and easy to use. One measure is how much the use of technology influences the user's intention to use the system through perceived usefulness. In the questionnaire, respondents rated on items related to their overall experience with online courses at OUM which included how good they felt about taking fully online courses, their preference of having face-to-face courses over fully online courses, and whether they felt they could successfully complete their programme through fully online mode.

From the total of 143 respondents, 95.1% (136) of the total agreed or strongly agreed that their overall experience online at OUM was good. Only 2.79% (4) disagreed or strongly disagreed that their overall experience was good and the rest remained neutral. At the same time, 87.4% respondents agreed or strongly agreed that they felt good about taking online courses and 83.9% agreed or strongly agreed that they did not mind taking online courses. While 83.91% agreed or strongly agreed that they could successfully complete their programme with fully online courses, only 23.07% disagreed or strongly disagreed that they prefer to have their courses face-to-face.

## Findings on Issues with fully online learning

Included in the questionnaire was a section for respondents to note if they faced any issues with fully online learning and to give suggestions to improve their fully online learning experience. Although 38.8% of 139 respondents who provided input said that they did not have issues with fully online learning, 5.03% indicated having issues with internet connection and experienced technical issues (mainly during e-tutorials) and 10.07% noted issues with tutors (not responding fast enough, not providing more relevant notes, not conducting e-tutorials on time, cancelling scheduled e-tutorials). In addition, there were remarks on having a tight schedule and time conflict and not being able to attend e-tutorials.

## Findings on the Performance of Learners (Blended Mode) Compared to Their Performance for Fully Online Delivery

Figure 4 below shows the performance of learners in four different courses, where the examinations were held every semester from January 2018 until September 2020. The semesters from January 2018 to Sept 2019 (6 semesters) are performance of the learners prior to the period of COVID outbreak (blended mode) and the semesters from January 2020 to September 2020 show their performance during the period of COVID lockdown (fully online delivery). This data clearly shows that there is a huge difference between pre-COVID



and post-COVID learner performance. There are many factors that contribute towards these changes in performance such as: examinations are offered as online take home papers, thus giving learners ample time to answer the questions in their own environment, as well as learners adapting to the fully online mode of learning. Learners are also given additional support in their studies: e-lessons and recorded online tutorials.

**Figure 4**

*Performance of Learners Prior to COVID-19 Compared to Their Performance during COVID-19 Lockdown*

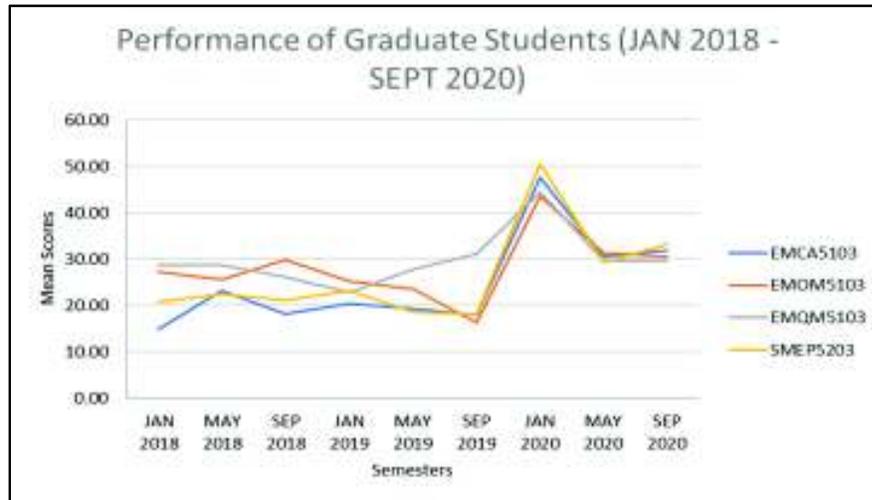
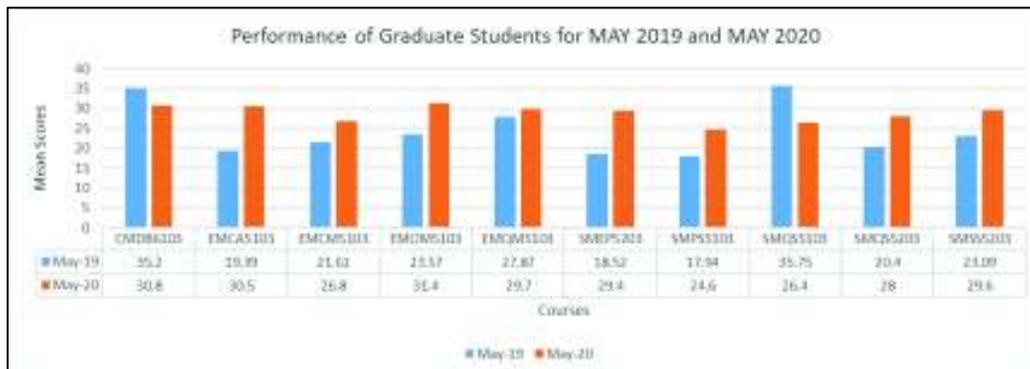


Figure 5 shows the average performance of the graduate learners for May Semester 2019 and May Semester 2020. With the exception of two of the courses shown, the average for May 2020 was slightly higher than that of May 2019. One of the courses, Advanced Database Systems: CMDB6203, is a technical course where it needs the learners to draw Entity Relationship Diagrams and do normalisation apart from writing SQL statements using the MySQL software. It can be deduced that the learners may not have the technical knowledge to do these tasks for their assignments on their own without guidance from their facilitators in a face-to-face seminar session. Similarly, for the Quality Standards and Systems course (SMQS5103), there is a marked decrease in the performance of the learners post COVID-19. This could be due to among others, the fact that the learners from the 2019 January intake were learners that had good working experience in the quality field and excelled in this fundamental course during their second semester.

**Figure 5**

*Performance of Graduate Learners for May 2019 and May 2020*



### Discussion

When the lockdown was imposed on 18 March 2020, learners were in the middle of their semester (January Semester 2020) and were due to sit for their final examination in April 2020. All classes were cancelled for 2 weeks, and final examinations were also postponed for 2 weeks. The university had to quickly adapt to the current situation and change all “sit-down examinations” to an online examination. Two types of online examinations were implemented: one is a “take home essay examination” and the other is “online MCQ examination”. Questions that were originally set for a sit-down examination were modified and used for the new online examinations. The results obtained by the learners after sitting for the online examinations for the first time appeared to be quite good, and we observed a spike in the graph as shown in Figure 4. The average for January semester 2020 was well above 45 (out of a total of 60), in all four courses.

By May Semester 2020 and September Semester 2020, OUM lecturers have had the opportunity to relook at the format and level of difficulty of the exam questions and improve on them. In doing so, the results of the learners turned out to be more comparable to what they achieved prior to the lockdown with a slight improvement to the results in May and September 2019.

The findings on readiness for change seem to indicate that the learners are fairly ready and able to adapt to the new mode of teaching and learning, in spite of some of the challenges faced. The issues and challenges highlighted included having problems with slow or no internet connection, technical problems, unable to manage time, unable to attend e-tutorial sessions, cancellation of e-tutorials, lack of interaction in e-tutorials, slow responses and feedback from e-tutors, lack of resources from e-tutors, and personal preference for having face-to-face sessions.

A high percentage of the learners indicated that they felt good about taking online courses and felt they could successfully complete their programme. More than ninety-five percent felt they had a good overall online learning experience at OUM. This is in line with the results of a university wide survey done by OUM in May 2020 which reported favourable responses by learners towards online learning. Sixty-eight percent of the 18,305 respondents agreed or strongly agreed they were satisfied with the online learning mode at OUM. Despite the high averages and favourable responses for online learning, the numbers that show otherwise cannot be ignored. Efforts must be made to further improve learners’ online learning experience at OUM.



Several of the issues stated by the learners were related to online tutors / facilitators. This calls for better preparation of the e-tutors for the fully online environment. Although some OUM tutors have been exposed to online facilitation, they may still be experiencing issues and challenges in conducting fully online courses. They may also face problems related to slow internet connection as well as technical problems, and these may affect their ability to run the e-tutorials smoothly and manage the online discussion forums efficiently. The e-tutors must also understand their role as a facilitator for a fully online course which requires more commitment as compared to when the courses were offered in blended mode.

## Conclusion

The study aimed at looking into the perspectives of OUM graduate learners towards the switch to fully online learning and the performance levels of graduate learners before and after the switch to fully online. The performance of the learners before and after the switch to online examinations were comparable from the second round of examinations onwards. This suggests that there is not much difference in the performance of the learners, and based on the data, the learners performed slightly better with online exams. This could be attributed to the fact that the examinations were given in two formats, online and take home exams where learners had one day to complete the exams and submit online.

The results and findings show and suggest that OUM graduate learners enrolled under the Cluster of Applied Sciences in general have a good level of readiness for change and are able to adapt and continue learning in the fully online learning environment. At the same time, efforts must be made to improve their online learning experience and make it better. Martin and Bollinger (2018) have stressed the importance of learner engagement in online learning for their enhanced motivation, improved performance and success, and increased satisfaction as online learners. There have to be plans to increase student engagement in all areas: learner-to-learner interaction, learner-to-instructor interaction, and learner-to-content interaction; as identified by Moore (1993). These areas are in line with the three dimensions highlighted in the Community of Inquiry (COI) framework (Garrison et al., 1999): social presence, teaching presence, and cognitive presence. OUM is currently making plans to increase student engagement by initiating more online activities. These new efforts may include structured group discussions to encourage peer learning (learner-to-learner interaction) and also learner reflections which will provide more opportunities for learner-instructor interaction as well as instructor intervention with the purpose of increasing retention. In doing so, it is hoped that the learners will have a more rewarding experience learning fully online.

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