

Strategies adopted in improving students' learning and assessment methods post COVID-19: A case study of a faculty in a Sri Lankan university

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ABSTRACT: COVID-19 is a highly infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and has taken on pandemic proportions, affecting all the continents (Remuzzi and Remuzzi, 2020), bringing about a severe and fierce global health crisis (Mishra et al., 2020). The closing of workplaces and educational institutions to avoid the spread of the COVID-19 virus has led to many challenges (Wijewardene, 2021), disrupting educational activities and causing severe hardships to students and teachers, globally. This in turn has challenged the teaching, learning and assessment procedures and methodologies practiced in educational institutions, universally. To continue with the teaching, learning and assessment for undergraduates despite the COVID-19 pandemic, the Faculty of Management Studies and Commerce (FMSC) of the University of Sri Jayewardenepura (USJ) in Sri Lanka adopted a hybrid method to facilitate teaching and learning, where both the face-to-face method and the online method were mixed in delivering lectures and conducting assessments. However, the face-to-face method had to be put on hold as the teaching and learning process suddenly turned in the direction of online learning due to the COVID-19 pandemic globally (Hayashi et al., 2020). With universities being closed in Sri Lanka from March 2020, learning from home and online lectures were developed to continue the higher education uninterrupted (Wijewardene, 2021). This article endeavors to define alternate approaches embraced and put into practice by the FMSC in assessing and monitoring students during the COVID-19 pandemic. Many aspects such as formative online assessments, teacher training workshops, exploring new methods to increase teacher-student interaction, and providing students with effective methods to facilitate online learning were adopted. This article attempts to act as a guide and provide insight in facing challenges in higher education in the 'new' normal.'

KEY WORDS: Assessing students, monitoring students, student-teacher interaction

I. INTRODUCTION

The coronavirus disease (COVID-19) pandemic has had a wide-reaching impact on the global population, international economy and health care and education systems (Wijewardene, 2021). Whilst the spread of the virus has resulted in far-reaching consequences, the closure of schools and universities has led to the inventing of innovative methods of delivering education, ensuring that students continue to receive teaching, albeit different methods of modality (Sandhu and de Wolf, 2020). Sri Lanka made a shift to online tertiary education after all educational institutions were forced to close in March 2020 due to the COVID-19 pandemic and this shift saw a surge in the use of various digital platforms and applications (Hayashi *et al.*, 2020). It is a well-established assumption that no pedagogical approach can replace formal education which has a teacher-taught direct interaction (Mishra *et al.*, 2020). The disruption in education globally, has affected learners and teachers and also caused the disruption of methods of assessment and lecture delivery and education systems. As the COVID-19 pandemic continues to spread, there has been an increasing move towards teaching online, which seems to be the only option left (Martinez, 2020). Globally, education has experienced not only a closure of schools and universities but also a delay in the conducting of examinations (Chandasiri, 2020) and, in Sri Lanka, university students are under the impression that it would affect their future employment prospects (Chandasiri, 2020).

However, due to student education being adversely affected as a result of the closure of universities (Chandasiri, 2020), an alternative was needed especially in the tertiary education system in Sri Lanka to address a vast student population on the threshold of their careers and employment. Undergraduates who would be graduates within a short period of time were the most affected (Chandasiri, 2020). Hence, due to the COVID-19 crisis, online education became a pedagogical shift from traditional method to the modern approach of teaching-learning from classroom to Zoom, from personal to virtual and from seminars to webinars (Mishra *et al.*, 2020). Students and teachers were forced to replace the formal education system and adopt a non-formal method of education (Wijewardene, 2021) In order to provide an undisrupted education to its management undergraduates, amidst major travel restrictions, the FMSC, USJ brought about changes in its lecture delivery and assessment methodologies by incorporating the hybrid method of teaching and promoting both synchronous and asynchronous learning. The synchronous learning enabled both teachers and students to interact together from different locations. The asynchronous lectures provided students with a flexible time schedule to listen to and

watch recorded lecture videos. This method was adopted in the assessment procedure as well, where, whilst there were monitored assessments, students were also given the freedom to complete and email/upload assessments during a given time period.

II. MONITORING AND ASSESSING STUDENT LEARNING

In the process of monitoring, mentoring and assessing students' learning, it is important to take into account students' needs, teaching and learning principals and the environment in which teaching courses will be used (Zeng *et al.*, 2018; Vaccaro and Sabella, 2018). Through the proper monitoring and assessment of students' learning, teachers are able to gather crucial information about students' current knowledge and progress in their courses of study. This monitoring and assessing encourages students' involvement, engagement, and participation, whilst helping students to get the maximum benefit from the teaching courses. This can be achieved by both careful observation of students' learning and suggesting changes to the courses and the way they are conducted (Zeng *et al.*, 2018; Vaccaro and Sabella, 2018). Student monitoring and assessment consist of many components such as observation of learning, diagnostic assessment, students' self-assessment, and short-term achievement assessment. The observation of learning provides information as to whether changes need to be made to the learning activities, and this can be a positive move to encourage student learning. The teacher could conduct small presentations and small group discussions via the online platform and observe if learning is taking place. Additionally, diagnostic assessments which can be conducted online, such as quizzes, interviews, posters, surveys and mind maps can assist in identifying the gaps in students' knowledge, and this can assist the teacher in improving the course. Through students' self-assessments, their strengths and weaknesses can be identified and measure can be taken to remedy the short-comings. Short-term achievement assessments can motivate students and determine whether they are making a short-term progress (Zeng *et al.*, 2018; Vaccaro and Sabella, 2018).

The COVID-19 pandemic has impacted teaching and learning and has created many challenges for both assessment systems and practices at educational institutions worldwide (Pokhrel and Chhetri, 2021). These challenges include maintaining students' achievement and skills, trials faced by teachers and encounters face by the FMSC. However, amidst these challenges, whilst adhering to the 'new normal' of lecture delivery and conducting of assessments, the teachers at the FMSC incorporate both assessments and examinations to compute the final mark for the course. The general method adopted is to provide a percentage of marks for formative assessments and to conduct a summative assessment in the form of an online examination, to calculate the balance percentage of marks. This method has proved successful as it has reduced stress and provided flexibility to the student and the teacher. Teachers at the FMSC use formative assessments to find out about and monitor students' understanding of the lessons, learning and skills. Formative assessments are also useful as they provide feedback to students, thereby enabling them to improve their understanding, skills, and future learning performance. However, summative assessments contribute to the final course mark of students at the FMSC as they have a high point value. These summative assessments assist in providing feedback on whether students have achieved the learning outcomes of the courses. Additionally they provide both a mark and feedback which will act as a regulator to students to improve their work performance.

Challenges and consequences in implementing monitoring and assessment systems and practices : With the classroom curriculum evolving to online material delivered from lecturers' homes to undergraduate homes (Bowen, 2020), challenges are inevitable. The traditional classroom has been a common meeting place, bringing students from different economic and cultural backgrounds to a common, shared space. However, the introduction of online education shifts a significant portion of learning to the student's home (Kadrigamar and Thiruvarangan, 2020). Online teaching, learning and assessment methods have provided a quagmire of challenges for both teachers and students. Both teachers and students have been forced to switch to the internet in order to mitigate the effects of disrupted learning, and higher education institutions utilized the existing Moodle-based learning management systems under the university web servers (Hayashi *et al.*, 2020). Skills of using ICT technology are, therefore, the most essential qualifications for educators, lecturers, tutors, and students (Bordoloi *et al.*, 2021).

The FMSC conducted all forms of assessments with the physical presence of students, prior to the pandemic. However, the COVID-19 pandemic forced upon the FMSC, to bring about online teaching, learning and assessment, which proved an uphill task, initially, as both teachers and students were not exposed to such methodology, previously. Hence this has proved to be a challenge in gauging students' learning, and whether they were achieving the expected progress in their learning. Information and communication technology are now widely used, leading to converting the entire teaching pedagogy to a student-centered pedagogy.

Online/blended or hybrid learning has stepped in to meet the academic needs of students world-over, including the FMSC, which shifted its teaching methodology from face-to-face, to online learning. This remote learning, however, has posed challenges, as it requires students to pre-develop skills in the use of ICT technology and a develop independence in self-learning and self-motivation. Providing online/blended or hybrid learning has also been challenging at many institutes in different countries, particularly during and in post-COVID-19 pandemic (Bordoloi *et al.*, 2021). Additionally many students at the FMSC have suffered isolation and stresses of varying levels, and teachers have faced difficulties in engaging students through the online platform. Furthermore, due to the fact that students were unable to do reference due to internet access connectivity problems and the inability to purchase data, they have been unable to complete assignments and research projects.

A study conducted by Wijewardene (2021) revealed that, more than 50% of the population indicated that they did not have a suitable device and/or internet connection at home to follow lectures online, although they preferred the online method of lecture delivery. Thus they were unable to access lecture notes, and videos uploaded, as part of their method of study. The lack of suitable technological facilities was an impediment to some for the furtherance of their education online. Internet connectivity is a crucial requirement for online learning (Rameez *et al.*, 2020); however, students who lived in remote parts of the country faced severe connectivity issues and problems with network coverage (Wijewardene, 2021). Accessing well-equipped telecommunication equipment for students in poverty is challenging, and a lack of a suitable device such as a laptop, desktop, tablet or smartphone becomes a hindrance to students who have no option but to continue their education online (Rameez *et al.*, 2020).

A shift to online lecture delivery posed challenges to teachers at the FMSC, as they had to master digital competences and experience to facilitate hybrid and blended learning, whilst possessing specific knowledge in the implementation of students' monitoring and assessment practices. Furthermore, these new hybrid and blended learning protocols required teachers to change their practices, daily tasks, and responsibilities, and develop alternative approaches to facilitate the monitoring of students learning. It is a well-established fact that physically invigilated assessments and examinations are more secure, but the FMSC was unable to implement such assessments and examinations due to the COVID-19 pandemic. As such a major challenge that the teachers at the FMSC faced was detecting cheating during online examinations which affects both the safeguarding of academic integrity and assessment security. In this backdrop, teachers at the FMSC came up against challenges such as conducting authentic assessment methods which are tamper-proof and monitoring students' performance, and faced difficulty in determining whether students are making the expected progress, and how to measure and evaluate this progress. Another concern that teachers at the FMSC faced was whether there is a gap between learning expectations and actual learning among students.

The COVID-19 pandemic brought with it drastic changes in learning and education at the FMSC and this finding was congruent with other research where drastic changes in learning and education were seen in educational institutions worldwide (Kercher and Plasa, 2020; Reimers *et al.*, 2020; Gamage *et al.*, 2020; Goris, 2020; Barronet *et al.*, 2021; Mocket *et al.*, 2021). The changes implemented in the learning and assessment culture for students and teachers at the FMSC posed several challenges to the institution, such as evaluating student progress and developing resource to facilitate student learning and assessment via the digital platform. In the backdrop of COVID-19, the FMSC strives to deliver different types of assessments and examinations in a bid to be impartial among students, as learning impartiality between students is critical (Sammons, 2010; ECD, 2008). The FMSC has also faced severe challenges posed by COVID-19, in implementing online assessments for students who intend travelling overseas. This is congruent with the findings of Goris (2020) and, Kercher and Plasa (2020) where the COVID-19 pandemic has had an impact on the international/overseas student mobility and learning.

Strategies adopted to face the challenges : COVID-19 has succeeded in crossing borders in an increasingly mobile world, which could impact and challenge teaching efforts (Kidman and Chang, 2020) whilst impacting students' learning and assessment worldwide (Pokhrel and Chhetri, 2021). The quality of online education is a critical issue that needs proper attention, especially in times of crisis, such as we are experiencing today (Wijewardene, 2021). Hence, the FMSC developed alternative and effective methods to monitor students' learning and assessments such as giving priority to effective digital formative assessment methods, providing guidance and training to teachers, facilitating more student-teacher interaction and providing students with support to engage in off-campus learning. All this was incorporated to maintain academic integrity.

Digital Formative Assessment : The world has reached the digital age, and it is imperative that students should have ICT skills that enable them to work with a range of digital assessments and data systems (Mandinach and

Gummer, 2011, 2013, 2016; Beck and Nunnaley, 2020a,b). Establishing and understanding the levels that students have already reached in their learning represent the primary goal of learning assessments (Masters, 2015). Formative assessments have the ability to guide the learning process of students and improve their learning outcomes (Black and Wiliam, 1998; Bennett, 2011; Van der Kleijet *al.*, 2018; Schildkamp *et al.*, 2020), whilst enhancing students' learning (Black and Wiliam, 1998). Further, Formative assessments are great classroom practices for lectures/tutors (Torrance, 2012) and, therefore, are policy pillars of educational significance (Van der Kleijet *al.*, 2018).

Research has provided evidence that digital formative assessments (DFAs) have great promises and potential for empowering and supporting students' learning (Looney, 2019; Pozzoniet *al.*, 2019; Reynolds *et al.*, 2020). DFAs are used by lectures to adapt the next steps in students' learning process and include a range of learning approaches, features, and steerages of the digital learning environment, including social media (Wikis, blogs, etc.) e-textbooks, personalized learning platforms, mobile learning, dashboard and monitoring tools and digital diaries (Looney, 2019; Pozzoniet *al.*, 2019). DFAs should have the features of the digital learning environment, which can assist with supporting the assessment of students' progress and providing feedback that can modify students' teaching/learning activities (Looney, 2019). If appropriately used, DFA-related analytics can help with identifying the learning gaps of students, informing lectures of their instructional materials' quality, and revealing students' motivation levels (Looney, 2019; Pozzoniet *al.*, 2019; Reynolds *et al.*, 2020).

The FMSC, having realized the importance of DFAs, especially during the COVID-19 pandemic, due to the inability to conduct face-to-face lectures, and the challenges that were faced in evaluating the progress made by students, integrated more DFA components through online platforms, and effectively used DFAs as a tool to achieve students' progress. Another challenge faced by the FMSC, that necessitated the use of DFAs included the difficulty of self-learning methods by students with few teacher interactions. DFAs can capture all forms of learning and learning's outcomes and, therefore, promote the 21st century students' learning and skills (Care and Kim, 2018). The FMSC used communication tools such as Zoom and Microsoft Teams and learning management system (LMS), including Moodle as online platforms to assist in student-lecturer interactions and collaborations. Both synchronous and asynchronous methods of DFAs were adopted to determine students' progress via assignments, feedback, and quizzes, whilst making sure that DFAs are valid, constructive, timely, and specific to the learning needs of the students.

Training and guiding teachers and students : The FMSC provided training and guidance to teachers to develop their digital competences and enable them to function in several well-known learning environments, such as online, hybrid and blended learning. This training and guidance have been carried out through training and virtual workshops that aimed to develop the assessment competences of teachers, and educate them on marking assessments and moderating. Continuous support of tutors and lectures is essential for the success of educational process. Support of teachers is particularly critical during COVID-19 pandemic (Reimers *et al.*, 2020; Barronet *al.*, 2021). Digital skills training and development are essential for students in the 21st century. Hence, the FMSC has embedded digital skills in the curriculum so that students are familiar with online and virtual learning modalities and the related assessment methods.

Promoting teacher-student interactions : Student-teacher interactions are important in student learning and education. Positive and continuous interactions between teachers and their students can create a successful learning environment that is fundamental for meeting the emotional, developmental, and educational needs of students (Englehart, 2009; UKEssays, 2018). Well-established and positive teacher-student interactions and relationships can support social, cognitive and emotional growth of students and increase their mental well-being (Brazelton and Greenspan, 2000). These positive interactions can also enhance students' independence and confidence in learning (Birch and Ladd, 1997; Klem and Connell, 2004). These positive interactions are particularly important for freshman and junior students as they influence students' skills to change to university required skills, and improve both students' learning at the university, and relations to peers (Pianta, 1999; UKEssays, 2018). The FMSC realized the importance of regular interactions between teachers and students in making teaching and learning more effective. Towards this end, regular teacher-student interactions were facilitated through the virtual platform using Microsoft Team or Zoom, as well as by using e-mails and text notes (through WhatsApp groups).

Promoting off-campus student learning during the pandemic : Across the globe the educational system has plummeted due to the COVID-19 pandemic (Wijewardene, 2021). The whole education landscape from elementary to tertiary level has seen a shift during the lockdown period of the novel Corona virus disease 2019 (Mishra *et al.*, 2020). The Corona virus has over-turned life (EdSource, 2020) and caused an enduring threat to educational institutions from kindergarten to tertiary level (Mishra *et al.*, 2020). Hence, due to the pandemic,

both teachers and students have been compelled to embrace the digital academic experience (Lederman, 2020). Student mobility, both locally and internationally, has been severely hampered due to the pandemic (Goris, 2020; Kercher and Plasa, 2020) and online teaching and learning requires that educators and learners should have technical skills in the field of technology to be able to teach and learn respectively (Rifiyanti, 2020). The FMSC moved its teaching, learning and assessment to the online mode to ensure continuity of the education process. Over a passage of time, teachers and students have become familiar with the virtual mode for the purposes of teaching, evaluating, assessing and provide both feedback and formative guidance. All students of the FMSC are off-campus as they are unable to attend lectures at the university due to travel restrictions imposed as a result of the COVID-19 pandemic. In order to facilitate the education of these students, the FMSC has adopted several approaches to support these off-campus students such as providing support to students and assigning teachers to check on the welfare of the students. Additionally, lectures are conducted live, and for those who may have connectivity problems, recorded lectures and teaching materials are uploaded, thereby providing individualized support to enhance the learning of off-campus students. In the assessment procedure, the FMSC designed alternate assessments to take the place of summative assessments, which are a crucial segment of education culture, and this action by the FMSC to ensure equity among all students was appreciated by students and received positive comments. Achieving significant equity through equalization of both educational and learning opportunities for all students is essential and clearly linked to both educational and learning effectiveness (Sammons, 2010; ECD, 2008).

Ensuring academic integrity during online assessments : Online/remote learning and teaching have a remarkable effect on higher education during the pandemic, including the pressure on students to complete their study curricula and prepare for both benchmark and final or the year-end examinations in a short period of time (Gamageet *al.*, 2020). Other major challenges during the pandemic were both arranging for examinations and maintaining the academic integrity. Examinations require strict and well-controlled invigilation and, therefore, cannot be conducted online, and it was difficult to maintain academic integrity when students are not physically in their classrooms (Gamageet *al.*, 2020). The International Center for Academic Integrity (ICAI) defines the academic integrity as “a commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage” (ICAI, 2014). Maintaining academic integrity during assessments was a difficult task, and to overcome these challenges and to safeguard academic integrity in digital domain, the FMSC applied strict yet successful practices to detect cheating and copying among students. These practices include the use of high-technology tools to detect academic wrongdoings and online software(s) to detect plagiarism. Turnitin, the web-based plagiarism prevention system, which assists in detecting plagiarism, was used by the FMSC staff to support academic work integrity. Flexible innovative assessments and low-stake assessment tasks were also used to minimize copying and cheating. Students were made aware of the academic integrity policy and were warned about the repercussions of copying and cheating.

III. CONCLUSION

The pandemic has heavily impacted and brought about unforeseen challenges for assessment systems and practices in the teaching and learning arenas in the FMSC, as is the case with educational institutions, globally. This compelled the academic staff of the FMSC to develop alternative strategies to monitor and assess students. As we do not know how long the pandemic situation will continue, a gradual move towards online/virtual education is the demand of the current crisis (Simamora, 2020). Online learning could be turned into a great opportunity to continue the uninterrupted education of students even during times of crises. University authorities should promote the online platform among undergraduates and faculty by providing the necessary accessories which will help in facilitating the successful online mode of lecture delivery to support academic continuity (Gewin, 2020). With no pre-configured rule book that could guide both teachers and students through difficult times such as these, as the pandemic continues to run its course, it is important to provide the teachers and students with the necessary skills and mindset to meet the emerging educational needs (Wijewardene, 2021).

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