LMS as an Effective Way for Overcoming the Barriers in Online Teaching-Learning and Evaluation Process: During Covid-19 and Beyond

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Abstract
With the advent of computer and internet, the whole socio-cultural set-up has turned upside down. Covid-19 has posed new challenges in every sphere of our lives and the field of education is no exception to it. Amidst the situation of growing distancing among teachers and students, 'social distancing' may become a major intimidation. In this light, the present paper attempts to demonstrate how the use of student-centric ICT tools for blended learning environment and how using mobile phones with internet connectivity can be an effective way out for the teachers in traditional classrooms. It attempts to share a personal experience of creating the active learning environment by the resourceful use of the free online Learning Management System (LMS), namely Canvas by Instructure and Moodle.

Keywords: active learning, blended learning, Covid-19, ICT tools, LMS, traditional classrooms.

1. Introduction
On account of the Covid-19 pandemic recently, the world has changed at a quickening pace. Covid-19 has posed new challenges in every sphere of our lives and the field of education is no exception to it. Indeed, 'social distancing' seems to be the only way to prevent the outbreak of this disease. Amidst the situation of growing distancing among teachers and students, 'social distancing' may become a major intimidation to this bond. Every possible step must be taken to not to let the bridge of the intimate relationship between a teacher and students fall asunder during this testing time that the world and humanity at large undergoing. Undoubtedly, teaching-learning in physical mode has its own relevance but the use of ICT in this process has its added advantages. The use of ICT has been expected to be the integrated part of the teaching-learning process at every level of education and many studies have explained both sides, advantageous and disadvantageous, of using the ICT in the teaching-learning process (Galanouli, D. and

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McNair, 2001; Garca-Valcarcel, 2009; Prestridge, 2010; Sang et al, 2010; Gutiarrez, J. and Zamora, 2013; Mitchell & Delgado, 2014; Dumford et al, 2018; Yuhanna et al, 2020). Gilbert (2015) explores whether high school students could benefit from online courses and examines the potential challenges and drawbacks of online coursework. She raises questions about how to best support high school students enrolled in an online course. While referring to Chaney (2010), Gilbert underscores the demand for online courses which is derived from a push "to provide quality education to all students, regardless of location and time".

However, the situation under Covid-19 has underscored the pedagogical indispensability of the use of ICT. Undoubtedly, there are my obstacles such as unavailability of the required infrastructure (ICT-enabled classrooms), poor internet connectivity, lack of training and motivation in using the ICT tools on the part of both teachers and students, etc. in the effective use of ICT. Some studies (Cabauatan et al, 2021) point out the factors affecting the intention to use blended learning approach in the tertiary level. In this light, the present paper attempts to demonstrate how to use some of the student-centric ICT tools for blended learning environment by sharing the personal experience of using ICT tools and sources, especially the learning management system (LMS).

The use of the LMS not only transforms the pedagogy by making it more learner-centric but also encourages the learners to inculcate the self-learning attitude. The use of LMS facilitates the idea of creating active learning classroom (ALC) that helps foster the kind of student-centred learning environment which is a key factor in enhancing students' learning performance and success (P. M. Baepler, Walker, Brooks, Saichaie, & I., 2016; Beichner, Saul, & Allain, 2000; Ferris, Jennie, Weston, Cynthia B., Finkelstein, 2009).

Of course, it goes without saying that for the effective implementation of the active classroom management techniques and tangible outcomes, ALCs require technology-enabled spacious classrooms. Consequently, it is a challenging task for the teachers/ instructors in traditional classrooms equipped with limited or no ICT tools and limited space to create active learning environment in majority cases. Then, isn't there a way out? Could we explore some more alternatives which may help us to overcome this limitation? In the next section of this paper, I would like to share some of these possibilities that I have been exploring in my classrooms. Prior to that let me admit that this is the initial stage of my exploration. Hence, it would be too early to talk about the visible results of my efforts. However, the outbreak of the Covid -19 pandemic and the subsequent lockdown has forced the teaching community to explore the alternatives to face to face teaching. Of course, there are differences of opinions in the effectiveness of the virtual or online teaching-learning process (Galanouli, D. and McNair, 2001; Garca-Valcarcel, 2009; Prestridge, 2010; Sang et al, 2010; Gutiarrez, J. and Zamora, 2013;

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Mitchell & Delgado, 2014; Dumford et al, 2018; Yuhanna et al, 2020). However, my focus of discussion would be on blended learning i.e. the use of LMS.

3. Sharing the Experience

The more positive one is, easier it is to find the ways out of the trouble. As mentioned earlier, teachers often grumble over the excessive use of mobile phones and internet by their students, especially for social media. However, this problem *per se* can be turned into a solution i.e. using the mobile phones with internet connectivity can be an effective way out for the teachers/ instructors in traditional classrooms equipped with limited ICT tools and limited space to create active learning environment. At this point, I would like to share my personal experience of creating the active learning environment by the effective and efficient use of the free online Learning Management System (LMS), namely Canvas by Instructure and Moodle. Indeed, I started using Canvas in my classrooms (both UG and PG) during the second half of the academic year (AY) 2018-19. Thanks to the Swayam Course in E-Content Development offered by NITTT, Chennai which I completed successfully during this period. I got introduced to this LMS platform therein. I used the Canvas platform during the AY 2019-20 and it proved to be a blessing to my students as online teaching became a need of time since March 2020 owing to the lockdown declared under the pandemic situation of Covid-19. The use of this platform proved to be very useful not only in online teaching-learning process (conducting live lectures through BigBlueButton (BBB), uploading recorded lectures, providing study material, etc.) but also in the effective implementation of the internal evaluation through the activities like Quizzes and Assignments. In the first half of the AY 2020-21 too, I continued using Canvas as an individually. However, during the second half of this AY, responding to the appeal by Savitribai Phule Pune University, Pune (SPPU), our college started using the Moodle, learning/course management system for the online teaching-learning process facility being provided by SPPU, Pune. As all teachers of my college were instructed to use this common platform to bring uniformity in the teaching-learning and evaluation process of the college, I had to switch over from Canvas to Moodle. Considering my experience in using the LMS system, I was given the responsibility of implementing this system in the college.

Besides, I also used the mobile based study applications (Quizlet) and tools (Kahoot, quizizz, etc.) for internal evaluation to help students develop collaborative learning and self-study habits. However, here the discussion is restricted to the use of LMS only. Needless to say that there are other LMS platforms, apps and tools too, but I would like to share here only what I have myself practiced in my own my classroom milieu.

3.1. Learning/Course Management System (LMS/CMS)

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A Learning/Course Management System (LMS/CMS) is a software-based platform. The abbreviation 'LMS' is used in this paper to refer to both LMS and CMS. LMS helps the teacher in the management, delivery, and measurement of the e-content. It rather provides a complete learning technology solution. An LMS is an important component of an effective learning strategy. Through LMSs, teachers can deploy a variety of learning strategies by using different formats such as formal, experiential, and social learning.

3.2 An Overview of the Open-source LMS Platforms

Both Canvas by Instructure and Moodle are two of the innumerable open-source LMS platforms available online. They are easy to use online blended learning platforms. They help the teacher to create online modules for each course. These platforms are useful to understand each learner's behaviour and create unique, personalized learning experiences, and social learning. They let learners consult peers and mentors, ask questions, and collaborate. These course management systems support online learning and teaching. They allow teachers in HE to post grades, information, and assignments online. These platforms are being used by universities and colleges all over the world. They offer a wide range of features depending on the educational needs. Canvas offers a Free-for-Teacher account that is always free. Moodle delivers a powerful set of learner-centric tools and collaborative learning environments that empower both teaching and learning. Across the board, both these platforms offer more interactive features than Google Classroom when it comes to both synchronous and asynchronous learning**.** You can easily add lessons, modules, courses, activities, etc. in this virtual Classroom**.** Synchronous learning is online or distance education that happens in real time. e.g. the BigBlueButton(BBB), which is built-in an open resource virtual classroom in both Canvas and Moodle, Zoom meetings, Google meets, etc. Asynchronous learning occurs through online channels without real-time interaction.

3.2.1 Adding Students to the Canvas Course

Having talked about the uses of LMS in general and Canvas and Moodle in particular, now I would like to share my own experience of using these platforms for teaching to my UG and PG classes. I have been using this LMS blended learning i.e. to the on-campus students for whom I make the course content available online on their student platform. Also the apps for the students available in Google play store can be downloaded in their android or i-phones and they can join the course by using the join code shared by the teacher. Alternatively, the teacher can add/enroll the participants (by clicking on the 'People' Section) by entering their email IDs and names. Once the email IDs and names are added, the Canvas course invitation will be sent automatically to students via email. Thereafter, the students can accept the invitation and join the course by clicking on the email link sent to them and entering the login details. There is provision of taking attendance of the students in the class in both platforms. The record of the

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same is maintained in the attendance tab. Further, the students' participation or page viewing activity is also available after each visit to the course.

The term 'course content' in Canvas and 'Add an activity/resource' in the Moodle incorporates the syllabus, modules, assignments, quizzes, etc. Further modules include recorded audio/video lectures, notes, study material, other online video/YouTube link, reference books in pdf formats, etc. Thus the all-inclusive module goes in line with the four quadrant approach consisting of video, text, self-assessment and learn more as per the UGC guidelines for the promotion under CAS.

3.2.2 Announcement and Syllabus Sections

The teacher can make announcements related to the course and other related activities in the 'Announcement Section' displayed on the left side of the computer or mobile phone screen. The students who are added to the group can see and read these announcements and update themselves and the teacher can also come to know whether all students have updated themselves or not. Students can also get an access to the syllabus of their course which the teacher can either type in the 'Syllabus Section' or upload the file (in word/pdf/jpg) there. The teacher can either publish/unpublish (Canvas) or show/hide (Moodle) the content uploaded in the modules or pages and keeps the rights of editing it with him/her by using the option in the setting. Further, the students can view whatever content is published by the instructor/teacher. However, there is an option for allowing students to upload the related files or comment in discussion forum. The teacher can take the preview of the course page before publishing it by clicking on the 'Student View' option.

3.2.3 Creating Modules and Pages

Depending upon the number of units or chapters, the teacher can create the unit wise or chapter/topic wise modules (titled with the main unit/topic). Further under each module, depending upon the number of topics/subtopics, pages can be created. These pages can be given the titles of the concerned topic/subtopic. The page in the module is the 'html editor' which allows the teacher to type or paste the copied content, insert/copy pre-loaded/saved images, media (recorded audio/video), online/offline links of text in all formats (word/pdf etc.), embed YouTube videos related to the topic/subtopic. There is a provision of recording the video lecture by clicking on 'insert/record media on the same page itself. After the recording is over, the video can be saved in the PC and inserted in the page. Besides, the page contains direct links to the Google Hangout meets and Microsoft Office Teams after authentication. Using these links, we can conduct live online classes. Besides, there is a provision for the conduction of live classes by using the 'Bigbluebutton' tab in the 'Conference' section in the Canvas course navigation bar to the left in your course page. The same can be done by clicking on 'Add an activity/resource' in

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the Moodle. The pages created in the module can be indented according to main topic and subtopics. Separate pages of the external tools/links of movies/dramas/documentaries/short films related to the topic can also be provided as an assignment. The students may be asked to view them at home at their convenience. This not only helps teachers to overcome the unavailability of the ICT tools on campus but also save the time used for showing the videos in the classroom.

3.2.4 Assignments and Quizzes with Rubrics

In the 'Quiz' section, there is a provision for creating MCQs, True/False statements, Fill in the blanks, matching, fill in multiple blanks, short answer type of questions, essay questions etc. In essay type question, students can be asked either to type the text of the answer or upload the file of their hand-written answers in the specified file formats (word, doc, pdf, ppt, images, audio/video files, etc.). Assignments can be given and got submitted in the same way. Further, criteria for evaluation can be set as per the expected 'Course outcomes' in the 'Rubric' section of the navigation. Students can be asked to submit their assignments in specified formats (docs, pdf, PPT, etc.) through their Canvas Course itself. In the 'Collaboration' section, students can be asked to share their notes or other related written material through the Google Docs page/s shared by the teacher. The teacher can create groups of students and assign group work through the canvas page.

4. Observations/Findings

In this section, I would like to share how the LMS platforms discussed above proved helpful to me as a teacher, and my students in the teaching-learning and evaluation process. Some of the findings in the context of my personal experiences related to the use of LMS in the teaching-learning and evaluation process are as follows:

i.   My practice of using the LMS proved to be very much advantageous to my students and me for the online teaching-learning process during the pandemic situation of Covid-19. It will not be an exaggeration if I state that my students carried my class in pockets 24x7. Although teaching-learning in actual classroom situation has its own added benefits and weight, I found both Canvas in structure and Moodle to be the perfect and effective tools for a blended teaching-learning process. It helps us to achieve greater engagement, boost productivity and promote continuous learning and upskilling. Students' participation or page viewing activity available after each visit to the course gives an idea to the teacher regarding their engagement and participation.

ii. It underlines the fact that using the mobile phones with internet connectivity can be an effective way out for the teachers/ instructors in traditional classrooms equipped with limited ICT tools and limited space to create active learning environment.

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iii.   The effective use of the LMS instance, being an effective and efficient ICT tool, can prove helpful in both ICT-integrated Teaching-Learning process and ICT-integrated Testing and Evaluation process.

iv.   Live/synchronous lectures can be conducted using the BigBlueButton (BBB) and the recorded lectures will be directly available to the students enrolled in the class in asynchronous mode. Further, the Live/synchronous lectures conducted and recorded via other platforms, viz. Zoom meeting, Google Meet, etc. can also be uploaded for asynchronous learning. Besides, these recorded lectures can be uploaded in the interactive video section available in the Moodle LMS instance wherein students' active learning and participation can be ensured by giving MCQs or short answer type questions at regular intervals in the video itself. The remarkable feature of this activity in the Moodle is that the video gets paused at the point where questions are set. I used this activity as one of the tools for internal assessment under choice based credit system (CBCS).

v.   Separate pages of the external tools/links of movies/dramas/documentaries/short films related to the topic can also be provided as an assignment. The students may be asked to view them at home and carry out the activities-based on it at their convenient time and space. This not only helps teachers to overcome the unavailability of the ICT tools on campus but also save the time used for showing the videos in the classroom.

vi.   During the testing period of the pandemic situation of Covid-19, the active and dynamic use of the LMS for online teaching helped me not only keep my students engaged in the teaching-learning process but also it enabled me to carry out the internal assessment very easily but effectively. My students felt at ease while taking the quizzes and submitting assignments.

vii.   The record of the grades/result was automatically recorded/maintained in the LMS and could be downloaded in the excel format.

5. Concluding Remarks and Suggestions

New learning technology has been playing a crucial role in bringing drastic changes in the e-learning space by considering learner needs. LMS is useful in data collection activities and student support as it provides platforms for mobile learning and gamification. It helps us to achieve greater engagement, boost productivity and promote continuous learning and upskilling. The effective use of the LMS instance, being an effective and efficient ICT tool, can prove helpful in:

1. ICT-integrated Teaching-Learning process
2. ICT-integrated Testing & Evaluation process

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Apart from its effectiveness in the online teaching-learning process in the prevailing pandemic conditions under Covid-19, it can be continuously used for blended learning (on campus and online teaching-learning). It is a better platform for Computer Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL), etc. It can be a better option to overcome our infrastructural limitations in terms of ICT-enabled classrooms and facilities.

As for training the teachers, the Internal Quality Assurance Cell (IQAC) in colleges may take initiatives in training the college level teachers. The universities and the Education Department may conduct Workshops periodically at various levels-zonal, district, university, state levels, etc. to train the teachers for the effective use of ICT and create blended learning classrooms through the use of LMS.

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