

# Amidst the COVID-19 Pandemic: The Best Online Learning and Teaching Practices in Internal Medicine Clerkship Program of the Faculty of Medicine and Surgery, University of Santo Tomas, Philippines



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## ABSTRACT

The best online teaching practices in the Internal Medicine Clerkship Program during the COVID-19 pandemic in the oldest university in Southeast Asia and oldest medical school in the Philippines was presented. Time constraint was a big factor during the unforeseen lockdown. There was a need to re-tool the faculty and provide institutional support to maximize the utilization of the existing online learning platform for the graduating medical clerks. The task to equip medical clerks with all the necessary knowledge, skills and attitude of a basic physician in such a short a time is colossal. So much so that this pandemic paved the way to adopt the best online learning and teaching practices that is expected to be a part of the blended learning even beyond the lockdown. The future of this COVID-19 pandemic is still bleak as of the moment, but as such

it would definitely strengthen the position of online learning as an effective alternative or better still, a replacement of the traditional learning method. The COVID-19 pandemic has fostered acceptance of the online mode as an auspicious choice for the teaching and learning method in the future.

**Keywords:** COVID-19, online learning, e-learning, medical education, best practices, online teaching

## INTRODUCTION

Traditionally, the fourth year medical clerks have a 2-month rotation in the Department of Internal Medicine consisting of actual patient exposure in the outpatient, emergency unit, hospital ward and intensive care units of the University of Santo Tomas Hospital (UST Hospital). They are also required to go on a 24-hour duty every three days as they rotate per week to different subspecialties and departments of the hospital (emergency room and outpatient department). They are under the direct supervision of the consultants of the Department of Medicine both from the Faculty of Medicine Surgery

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and UST Hospital assisted by the medical residents and fellows-in-training from different subspecialties. For added clinical exposure, they also rotate outside the UST Hospital, namely the San Lazaro Hospital and Jose Reyes Memorial Hospital, both of which are government hospitals. In between ward works and patient care, they are required to have case presentations and attend various learning and teaching activities with the guidance of the consultants as moderator/facilitators.

Unexpectedly, the corona virus disease (COVID-19) pandemic created an impact on the population, global economy and health care systems, eventually leading to the worldwide closure of schools and universities.[1-3] The Philippines likewise experienced closure of all schools and universities as the government ordered an enhanced community quarantine (ECQ) or lockdown. Thus, the medical clerks were not allowed to report to the hospital for their ward duties and activities for safety purposes and the traditional learning methods of actual patient encounters in the hospital as well as face to face learning/teaching activities were put to a halt.

### Identified Needs

The outcome of this pandemonium on the training of these graduating medical clerks, their mental health and groundwork for life as doctors are yet to be determined.[2,4] The recommended social distancing is predicted to extend until at least the development of a successful vaccine, thus, global changes to medical education are going to be required.[2,5] In the academic world, the closure of schools and universities has led to innovative methods of delivering education, ensuring that students continue to receive teaching, albeit different methods.[1,2,6,7] Ruiz, et al. recognized more than a decade ago that the “*integration of e-learning into medical education can catalyze the shift toward applying adult learning theory, where educators will no longer serve mainly as the distributors of content, but will become more involved as facilitators of learning and assessors of competency*”.[8]

Confronted with this inevitable situation, the Department of Medicine Committee on Clerkship formulated an immediate plan to replace the face to face learning and teaching activities into a virtual learning platform in the shortest possible time so as not to compromise the required knowledge and

skills expected from these graduating medical clerks. The redesigning of the course plan’s blueprint, its content, rethinking the manner of delivery of teaching and learning activities, reassessing the digital literacy of both the medical clerks and facilitators, deployment of examinations without compromising its integrity and most important of all, efficiently and effectively utilizing the existing Blackboard Learning Management System of the University of Santo Tomas were all taken into consideration. All of these factors needed to be addressed without the luxury of time. The recent shift toward outcome-based education (OBE) curricula that emphasizes the achievement of expected learning outcomes remained the guiding principle in all these endeavors.

### Technology Resource of University of Santo Tomas

The UST Faculty of Medicine and Surgery is blessed with the infrastructure (the e-learning platform blackboard) that was secured by the University of Santo Tomas years prior to the COVID pandemic. Technical support is provided through the UST Educational Technology Center (UST Edtech). The maximal use of the said virtual platform was encouraged and prioritized by the UST Faculty of Medicine and Surgery’s Dean, Assistant Dean and Clinical Program Head.

### Addressing the Needs and Application Course Plan

The “must know diseases” stated in the course plan of all the nine subspecialties namely cardiology, pulmonary, gastroenterology, infectious diseases, endocrinology, nephrology, hematology, oncology, rheumatology, as well as cases seen during rotation in the emergency room and ambulatory care medicine were reevaluated. Retooling of the blueprint was done by streamlining the expected learning outcomes that would be feasible in an online learning situation. The rubrics for the evaluation of teaching and learning activities were also revised to make them applicable for both asynchronous and synchronous engagements in online learning.

### Learning Materials/Tools

Uploading of learning materials (lectures and videos) were done in the content section of the Blackboard

for the medical clerks to study at their own pace as part of self-directed learning. This site serves as a repository of high-yield learning resources accessible to the students 24 hours a day.

New plenary lectures that were high-yield, practical and case-based were created by consultants who are experts in their respective field of subspecialties. This is to enhance further the learning materials that will be accessible to the medical students. It is scheduled weekly with at least two consecutive plenary lectures being delivered and recorded. These lectures are highly interactive by using the polling and chat capabilities of the Blackboard collaborate during the lecture delivery. This activity will continue for the incoming batch of clerks with another pool of new topics.

The delivered plenary lectures are then uploaded in the content materials of the course site for the next batches of clerks as a virtual repository of quality educational resources for them. These lectures are now accompanied with pre- and post-test exams made by the lecturers and serve as a module in itself. It is organized in a folder per subspecialty. These plenary lectures are requisite knowledge for all the rotating clerks as they rotate in their specific subspecialty rotation at their own pace serving as a self-directed learning activity. In this manner, all clerks will have a uniform self-directed activity and standardized knowledge. If ever there will be resumption of face to face learning (hospital and ambulatory care medicine), it will still be part of the blended learning (online plus face to face).

Maximizing the use of "Collaborate Ultra" feature of the Blackboard learns +, all the teaching and learning encounters (conferences, presentation, plenary lectures) are recorded and available at any time of the day. Those with internet connection problems can access it again anytime, thus they would not miss anything. Unlike the conferences held during face to face sessions, these online teaching and learning recordings offer the students their preferred pace of learning, thereby improving the efficiency with which students move through a learning progression.

### Teaching and Learning Activities

All the case presentations and conferences are held according to their regular schedule thus simulating the "normal" face to face schedule prior to the

lockdown. Consultants with teaching loads in the ward and ambulatory care settings converted their teaching and learning activities to journal and case-based discussion simulating cases in both the in-patient and ambulatory care setting.

Concise actual and theoretical cases are provided by consultants before the scheduled conferences. It was designed that not all data is provided so that the students can critique and formulate their own diagnostic and therapeutic plans. Journal critiquing is also done by some consultants tackling the latest issues on the recognition and management of important diseases including COVID-19. Learning outcomes are presented during the start of case conferences and re-evaluated at the end of the activity if these were realized in consonance with outcome-based education (OBE) curricula. Concept maps are presented after each case presentation as a collaborative effort of the group. Evidence-based medicines are always advocated as the medical clerks present their cases. Reflections after engagement with the consultants are likewise done.

### Evaluation Methods

Since exit examinations cannot be given by face to face, the Blackboard Test is used in the deployment of the exit exams with its special feature of Respondus Lockdown browser that guards the integrity of the examination even in the setting of an online examination. To add more, there was ease in checking the exam which also provided item analysis and statistics of the examinees' exam performance.

To serve as a culminating activity and to have an insight on the impact of online learning as an alternative method of learning from the point of view of the end user, the medical clerks, the outgoing eight groups were asked to create a collaborative 3-minute exit video project on the topic THOMASIAN MEDICAL CLERKS AMIDST COVID-19 AND ECQ: THE IMPACT OF ONLINE LEARNING. The best three exit video presentations were adjudged by three consultants.

Likewise, an individual exit survey after two months of rotation in the Internal Medicine Department on pure online learning was deployed. This survey is an important tool for the teaching staff to know the impact of online learning on these graduating medical students' knowledge and training. Specific objectives are targeted namely: a) gauge

acceptability of a self-directed learning; b) recognizing frustrations on its use; c) identifying coping mechanisms employed; d) assessing the rate of student learning; e) evaluating the quality of study time; and f) appraising oneself in terms of level of proficiency in handling actual patients later in practice.

### Teacher and Student Support

Shadowing with the consultants who are not yet well-oriented with the Blackboard virtual platform was done by colleagues whose digital literacy is proficient until such a time that the former can access, create sessions and conduct classes on their own. Commendable efforts of digital-proficient colleagues were exhibited by creating step by step mini video tutorials on this matter.

The Medicine Clerkship Committee had immersion ("sitting in") sessions with the clerks' teaching and learning activities conducted by different consultants. This is to identify early problems or difficulties encountered during the actual online activities and discussed such situations with the consultants offering possible solutions to the identified barriers from learning. All information is relayed immediately and discussed with the department chair for plan of action.

Likewise, the Medicine Clerkship Committee conducted a regular weekly meeting with the overall leader and eight group leaders in order to be aware of engagement/non-engagement with the consultants for that specific week. Efforts were also exerted to identify problems or difficulties encountered by the medical clerks during the actual online activities, to know anxieties or perceptions they might have with regards to their own academic future and personal matters as well as the burden of either too much or too little online activities that will definitely affect their engagement online during the pandemic time.

### Additional Plans

Mentoring for each group of clerks by a consultant is planned to assure that there is feedback and guidance for the medical clerks for the whole two months of rotation. The mental health care and even pastoral support plan for students can also be addressed with this mentoring activity. Meeting the group at least 1-2x/week will suffice to discuss engagements

that happened, inquire and assess if learnings were realized, identify problems and offer solutions and encouragements. Asking the medical clerks to make reflections will be the best way to materialize their thoughts on their present situation whether personal or academic wise.

The creation of a virtual patient repository or patient as teachers (PAT) will serve as a substitute to actual patient encounters because of the present circumstances. Ideally, a history and physical examination of an actual patient with different cases will be recorded and can be studied and reviewed by the medical clerks anytime. However, it may entail some problems such as budget and privacy issues. Seeing and hearing actual patients are very much different from having case discussions. This virtual patient repository will address the feedbacks of clerks who rotated in Medicine and did not see adequate number of "must see cases" in the ward even during the time before the lockdown. One suggested solution for this would be the rich internet source. However, copyright issues can arise. Another would be hiring the services of "professional patients" as practiced in medical schools in other countries but it will also entail a big budget.

The use of e-Portfolio is to contain the clerks' learning journey during the online learning period. The present portfolio used by the medical clerks, the C-Port, will not be very useful at the present time since a major revision was carried out with regards to the course plan, learning outcomes and grading system. The e-Portfolio will contain all the case discussions they had, concept maps, grades, personal reflections per rotation and exit reflection about the entire rotation (with well-defined parameters to reflect on to).

### OBSERVATIONS AND RESULTS

It is observed that the medical clerks exhibited attitudes that are commendable at this time of a pandemic considering their young age and level of experience with regards to life matters. Though they expressed anxiety over the fact that their actual patient encounters are compromised and the feeling of insecurity for their clinical skills is overwhelming, their optimism outshines these matters. It is surmised that their digital literacy helps them to overcome these apprehensions. Most likely, the self-paced learning, luxury of sleep, absence of 24 hours duty,

wealth of resources in the internet, leniency of facilitators, warmth of the family presence (majority most likely), the more intimately supervised engagements with the consultants and most importantly, the attitude of being more pious now helped them exhibit a positive response to the COVID.

The patience of medical clerks to their digital-challenged facilitators is often seen to the point that they are the ones guiding their facilitators in some instances. Their skills in critiquing the history and physical examination findings are praiseworthy. This skill was not observed in the previous batches of medical clerks that had the opportunity to have an actual patient encounter before the lockdown. The discussions during conferences are noted to be annotated now by credible recent journal sources that were unfortunately not observed before. Most of the one-hour case discussions are now extended up to 2 hours at least because of the fact that all group members are participating and have their own discussions to share. Though the majority almost complain of internet connectivity problems, this is disproven by the fact that their attendance in conferences is almost perfect most of the time.

They obtained high scores in their exit examination despite taking the exam with the Respondus Lockdown browser capability of the Blackboard. This exam tool prevented the medical clerks of having access to any educational website or resource during the actual exam. Also, it has a feature of having time restriction and test questions are randomly arranged making it difficult to communicate while taking the exam.

With regard to the facilitators, it is good to note that the attitude observed from them shifting from a traditional classroom or hospital set-up to online teaching seem to be unexpected by the fact that there was less resistance and no negativity whatsoever were observed. It is more of the anxiety about digital literacy and competency that worried them. They exhibited an attitude of open-mindedness and eagerness to learn new ways to teach. Their diligence to study and follow the step by step guide of mini video tutorials on how to access and use the Blackboard was seen. Their humility to accept shortcomings in terms of digital literacy is shown. Their passion to teach never waned even online, but was noted to be more ignited than before. This may be because of the feeling that they should deliver more as they care that much for the medical clerks' fu-

ture as a doctor now than before as they sympathize with them of not seeing actual patients.

Though it is tempting to conclude whether all of these observations can be attributed to the best practices implemented during the lockdown from the retooling of the course blueprint, content revision, delivery of teaching and learning activities or manner of deployment of evaluation, the real answers can be derived only if a formal survey can be conducted to all stakeholders who have experienced the implementation of these best practices.

## INSIGHTS AND CONCLUSION

The success of best practices in any medical education online program can only be gauged after its full implementation and evaluation of its outcomes. In this conflicting time of COVID-19 pandemic, it has tested the resiliency of our educators in terms of their ability to turn this unfortunate event into something stakeholders can attain that is of lifelong learning. Best practices in this time can only be successful according to the teaching culture of the academic institution. The University of Santo Tomas being the oldest university in Southeast Asia and the UST Faculty of Medicine, being the oldest medical school in the Philippines as it celebrates its 150 years foundation, always lead from the front in all their academic endeavors. The acquisition of the virtual platform Blackboard anticipated the future of education. The present situation has proven the value of foresight that the university has since the very beginning. You may call it serendipity, but the success of best practices exercised during this pandemic depended so much on the infrastructure that was provided many years ago but unfortunately was not well utilized by the faculty until now. Retooling of learning programs must always be on hand and trigger best practices as the situation calls for it. The dynamicity of online learning is palpable. The current success of online teaching provides an initial insight into new and innovative ways of teaching for medical education.[1] So much so that this pandemic paved the way for the best online learning and teaching practices that would still be adapted beyond the lockdown as part of blended learning.

The future of this COVID-19 pandemic is still bleak for the moment, but as such it would definitely strengthen the position of online learning as an effective alternative or better still, a replacement of

the traditional learning method. The COVID-19 pandemic has strengthened the acceptance of online learning as an auspicious choice of teaching method in the future.

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No potential conflict of interest was reported by the author.

#### **Ethics Approval and Consent to Participate**

Not applicable.

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