Role of Recent Technologies and Its Importance in Pharmaceutical Education Due To Outbreak of Covid-19

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Abstract:
The novel coronavirus in late 2019 outbreaks each day breaking news about the disease, updated case numbers, and intense government announcements. These stories vary by global region but suggest a united concern for health care workers. The coronavirus disease 2019 (COVID-19) was declared a pandemic by the World Health Organization on 11th March 2020. In the same month, the Central Government of India, suspended physical attendance in all the educational institutes announcing the shift of all educational activities to online mode. This moves to distance learning, precisely online learning, forced the educational institutes and the academic staff to adjust their teaching and assessment methods. Similar to the other healthcare education programs in higher education, the pharmacy education sector was also affected. Both the academic staff and the students in the pharmacy had a very limited time to adjust their lifestyle as well as the educational activities. Challenging situations often lead to new and innovative ways. Pharmacy educators capitalized on this extraordinary time to create opportunities for them. For many years, leaders of educational institutions have considered the best manner in which to take advantage of the technological tools enabling the realization of e-Learning. With the onset of the COVID-19 pandemic many educators be able to move post these barriers to digitize their curricula and provide their learners with distance-based education. The present literature concludes about the digitalization of pharmacy education, its existing barriers, its importance, its acceptance and efforts of educators.
Keywords:COVID- 19 outbreak, Online classes, Educators, Students, Acceptance, 4 quadrant teaching.

I. INTRODUCTION:

The coronavirus disease 2019 (COVID-19) originated from China in December 2019 (WHO, 2020). With increase in number of cases on daily basis in whole world it was declared a pandemic by the World Health Organization on 11th March 2020.With declaration of pandemic by WHO each and every teaching organization were under the threat as the schools, colleges, universities are second home for students, scholars and teaching staff. For saving students and scholars from this attack of pandemic central government of India has suspended all the physical teaching activities and experimental works from classrooms and college laboratories. These activites started accquiring the distance learning mode at the present sceniro. This can be more precisey called as ONLINE TEACHING LEARNING MODE.
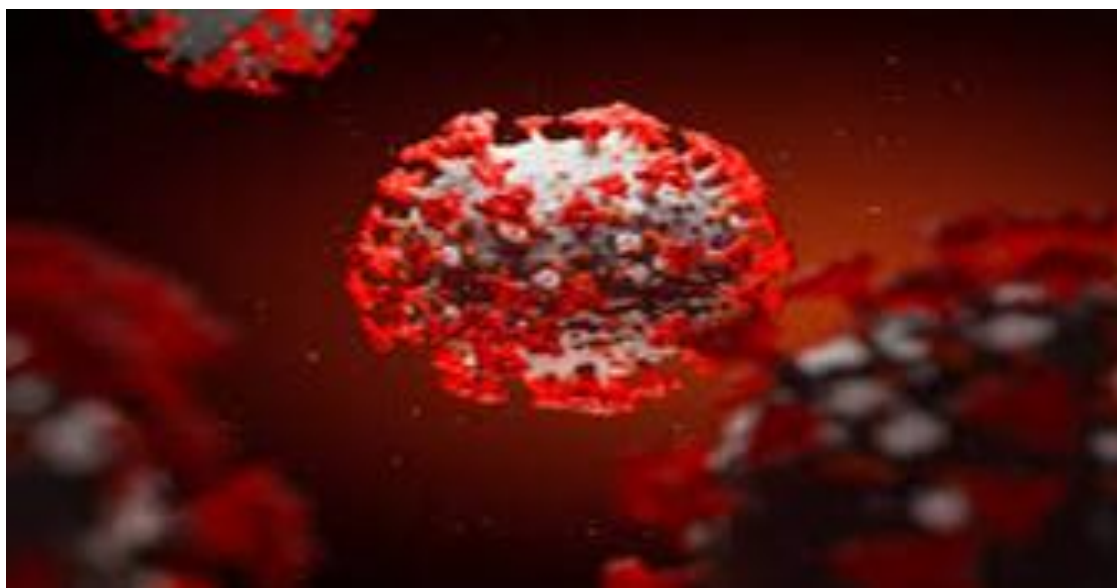
Figure 1: COVID-19 virus

The Central government of India announces complete lockdown to partial lockdown as and when required for the prevention of spreading of this pandemic and saving life. The nation-imposed lockdown was somehow helpful for prevention of this disease but it is greatly affecting the education sector and the academic activities.

Figure 2: Mode of teaching switched

In any developing nation like India, it is very difficult for all to switch on the other mode in such small time. All the higher health education courses like pharmacy were greatly affected by this. Both the academic staff and the students in the pharmacy had a very limited time to adjust their lifestyle as well as the educational activities. The new mode of learning was a challenge for students and educators as its new for acceptance, needs lots of efforts, ack of resources, insufficient technical knowledge and shortage to time to cope up with this scene.

But as our honorable Prime minister always quote "convert disaster into opportunity", every one on their level started doing their role.The pandemic has indeed propelled us into the new era of 'out-of-the-box' thinking and creative problem solving in the context of online education. Both educators and students played their part for this mode as the situation is a NEW NORMAL for us. The challenge for educators was to provide quality education and decent assessment mode and for students' challenge is to maintain their attention and sincerity for their learning as it is directly related to their future. Gaining insight into the pharmacy students' experiences in this situation can help the pharmacy colleges and educators make informed decisions regarding educational transformation that is required, as the pandemic is expected to last longer and its repercussions will be felt for many years to come.

II.   METHOD AND MATERIALS:

In the current article authors are sharing their real working experience and methodology as pharmacy educators in their organization. The two most common apps ZOOM and GOOGLE MEET were the boat for sailing in this situation. The educators prepare their respective subject presentations and explain the concept and content by sharing their screen.

Figure 3: Most common apps used for online classes

The virtual time slots of 40 min for each class is prepared and the schedule was shared to students on weekly basis. On an average 4 classes of different subjects were conducted including gap of 10-15 min between two classes. As its difficult for students also to concentrate and pay attention to every class in this new normal situation the time slots were chosen according to flexible and rotational basis.

After few weeks the conduction of online cases were accepted as there was no choice available. Even then some of the issues persist like unavailability of devices, poor network connection, data exhaust, family condition etc. Again, the disasters give the chances for opportunities.

A new methodology was acquired and named as 4 quadrant method:

In this 4-quadrant method, the similar virtual time table slots were prepared and most important work was done by google classroom. Google classroom is a virtual classroom feature provided by Gmail where the educator can create the classroom and share the code and link with students to join it. The HODs, Principals, Director, Management people are Co-teachers for the classes.

Figure 4: Virtual Classroom

Use of G-suite with full functionalities and secure logging via institutional domain address for both educators and students. Designing, development and delivering of classes and assessments are done by four quadrant method.

The quadrants are as follows:
a.   Quadrant 1: Teaching Content
b.   Quadrant 2: E-Lecture
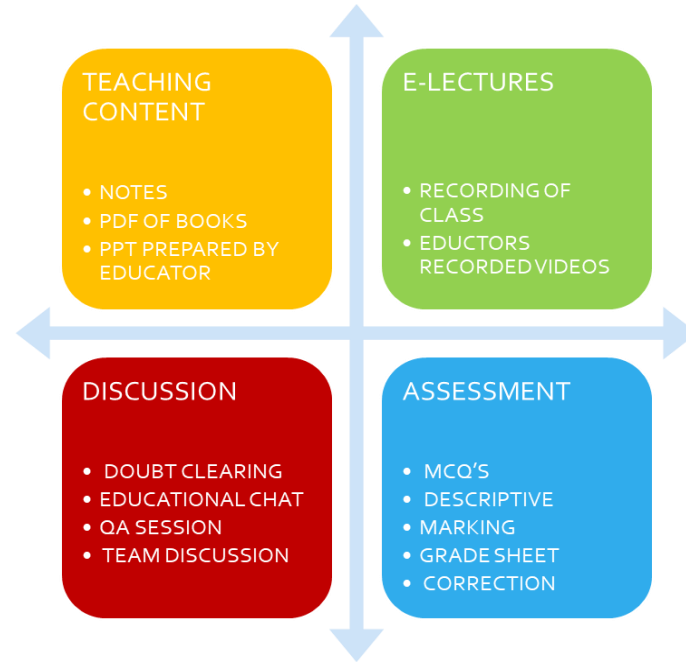c.   Quadrant 3: Discussion
d.   Quadrant 4: Assessment

Figure 5: 4- quadrant teaching plan

Quadrant 1: Teaching Content
This quadrant is also known by study material. In this quadrant educators uploaded the prepared notes, presentation slides, short notes and foot notes, important vocabulary, scanned copy of topic from different books and information from journals as required. The notes prepared by teachers are available to students after the conduction of class.

Quadrant 2: E-Lecture
This quadrant is also called as video lectures. In this quadrant the educator uploaded his/her own video lecture which is recorded by him in his online class while teaching. Recording is done for each class and then it is uploaded in the quadrant for students. This helps the students for learning at their own pace and they can revise missed lectures.

Quadrant 3: Discussion
This quadrant is also known as interaction forum. Discussion board is setup in every subject where the students can raise discussion amongst themselves as well as to educators. Discussion forum is used for clarifying doubts, questions, doing reviews and recap according to the requirement. One additional discussion session is conducted for clarification of any doubts after completion of assessment.

Quadrant 4: Assessment
This quadrant is also referred as assignment. After completion of each module assessment is created and provided to students. The test paper is created in google form and then it is shared with students. The assignment contains MCQs, Short Questions, Descriptive Questions, other open-ended questions etc.

Figure 6: sample of 4 quadrant from google classroom

III.   RESULT & DISCUSSION:

Like everything have some pros and cons, the article is not an exception so some of the points for it are following:

3.1. Pros:
- Health is wealth: safety first
- Interactive and attentive learning
- Self-paced and flexible learning
- Technology savvy
- Responsible learning

3.2. Cons:
- Network and other technical issues
- Careless and ignorance in attitude
- Less reliability of assessment
- Lack of availability of gadgets
- Lack of practical exposures to experimentation

3.3. Real experience as educator:
- As the educator of pharmacy, in a mediocre town of a developing nation, where the students are also from simple background, networking issues, power cut etc. the change from physical classroom to a virtual classroom was not easily acceptable.
- It was initially imposed but with flow of time and every Challenging situation often led to new and innovative ways it became a new normal situation.
- This virtual learning has enhanced a sense of responsibility and responsiveness both to educator and learners.
- The willingness to learn and use more technologies has made it easy and also attentive to face such situations.

3.4. Real experience of students:
- Virtual teaching provided us the way to establish frequent communication with the educator.
- Definitely we miss our real classroom, still we enjoy this virtual learning as well.
- By anyways we have to accept the online mode of learning.
- Enjoying and most importantly developing the sense of responsibility towards own education.

So, the result of the article is specifically composed for the acceptance of a new normal situation and advantages of online mode of learning. The initial part of this situation was not easy to accept, manage resources, flexibility for this approach, acceptance of this situation. Later on, while implementation there were

lots of other situations pop up like poor technical skills, low attendance, students' distractions and mischiefs etc. With no other option left, everyone started accepting it, might be the condition was imposed on everyone but yes definitely when we start accepting rather than complaining, we like the condition as it is. Now both educator and students has accepted the new mode of education by using technology. The educators have accepted the change and learned the new techniques which is very necessary for survival in this era of technology. Even the students are feeling more connected with the educators because of the technology and its use, the students who are introvert are also became comfortable with educators via technology and can ask any of their doubts to the educators as and when they need.

IV. CONCLUSION:

The current article concludes for the advantages, role and importance of technology in education sector specially health education sector of senior level. Author has shared the real work experience and situations faced as educators during the outbreak of COVID-19 and even date. Easier and frequent communication with the academic staff is important facilitator for students is possible by technology only. In present condition, the online mode of learning has come out as icing on a cake for maximum learner. Yes, definitely offline mode was a habit but the present situation has taught to accept the change and grab the opportunity to learn new things from it.

ACKNOWLEDGEMENT:

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