

EXPLORING THE APPLICATIONS OF GOOGLE FORMS IN THE PHARMACY EDUCATION DURING COVID-19 PANDEMIC: AN EDUCATOR'S REPORT

Avinash Bichave*, **Shrutika Patil**, **Meera Deshmukh**, **Dr. Pranati Tilak**, TMV's Lokmanya Tilak
Institute of Pharmacy, Kharghar, Navi-Mumbai-410210 : helloavinashsir@gmail.com

ABSTRACT:

During COVID-19 pandemic in India, pharmacy colleges began to offer online teaching and learning as an alternative to traditional classroom teaching. This report provides more information about online pharmacy education teaching, learning and administration in terms of application of Google form (GFs). Google Forms is a free online tool that helps to generate data collecting forms. It may be used by students and instructors. In the study author had use this tool to develop surveys, quizzes, event registration forms as well as collaborative work. He had edited and shared the form with the other team mates and students. They can use GFs to assess their students at the beginning of the class and gauge pre-existing knowledge. Furthermore, GFs also used to give feedback to and receive feedback from students and parents. Similarly, educators and students used GFs to assess their own learning and set the learning goals as well as to collect data for their research projects.

This study indicates that during lockdown due to COVID-19, Google form was found to be beneficial for professors and students for teaching and learning respectively in Pharmacy college. Overall the teachers and students favoured use of Google form over the traditional way of data collection because of its some advantages but it also has few disadvantages which need to be improved to suit it for the structure of pharmacy curriculum (PC) in online mode.

KEYWORDS: *Google Forms, Application, Pharmacy Education.*

1. INTRODUCTION:

In the January of 2020, the World Health Organisation (WHO) declared COVID-19 as a public health emergency of international concern and as a global pandemic in March 2020^{1,2}. In responses to the government policies of INDIA, in order to deal with the global pandemic and its risk to public safety, all school, colleges and universities had to close their campus for safety of student and faculties³. There was a shift around the world from classroom teaching (offline) to online mode of education, including India. At initial stages of lock down, it was a challenging situation for educational institutions as well as for student to adapt to this online mode of learning. Educators across different streams including pharmacy education had to find many tools and applications to aid in this new mode of learning⁴. Along with the other tools, GFs played important role in teaching and learning.

As per the Pharmacy Council of India (PCI), pharmacy students had to give different assignments and assessments related to each subject given by respected colleges. These assignments and assessments are crucial methods to check the understanding of concepts within pharmacy curriculum⁵. Here, an important requirement is maintaining standards of teaching and learning through assessment and assignments in a quality way that is comparable to offline mode. At the same time, the achievement of learning objectives should not be compromised. Google form, being an easy and readily available tool, played an important role in helping with the shift. This study aims to explore the different applications of GFs as a tool for online assessment for pharmacy course in TMV's Lokmanya Tilak Institute of Pharmacy (LTIP); Kharghar, Navi Mumbai, India – 410210

2. STUDY CONTEXT:

The PCI, New Delhi, The Rules & Syllabus for the Bachelor of Pharmacy (B. Pharm) Course [Framed under Regulation 6, 7 & 8 of B. Pharm course regulations 2014] clearly mentions schemes for marks

and credit distributions for assignment and internal assessment for student's evaluation purpose. Taking need of Pharmacy Curriculum by PCI into consideration, professor of Pharmacy College had to frame quizzes, MCQs, theory/practicum assignments, surveys, assessments for students and to evaluate them precisely based on their submissions. All this data also needs to be maintained in excel format for further reference during inspections by authorities. Before pandemic crisis, all this data used to be generated, processed and documented using traditional methods. Due to shifting from offline to online mode, it was bigger task for professors to find easy and comfortable tool for fulfil the purpose of the same.

Although there are other online survey apps are available, GFs is a free online tool that helps to generate customizable data collecting forms. It may be used by professor and students. In this study our professors are form creators and our students are end users or respondent. The collected data can be stored in spreadsheets which are editable and sharable. This spread sheets also allowed certain degree of data processing, which makes it convenient for educators use.

With the help of GFs, one can create an online survey, quizzes, assignments and assessments. It is also used to collect the data on punctuality and precise attendance for each session for all students and for each student for all subjects. Professors can invite doubts or questions from students after the lectures so they can address those in next lecture. This platform can also be used as quick feedback collection tool. As a form creator, professor can invite respondents by email, through WhatsApp communication or by sharing link in chat box of a video conference application during ongoing sessions. Respondent can answer survey questions from almost any web browser irrespective type of devices. Professors can view each response in a single row of a spreadsheet, with each question shown in a column.

3. APPLICATIONS OF GOOGLE FORMS IN PHARMACY EDUCATION:

A Google form is a versatile tool that lends itself to variety of possible applications for educators use in any field. Due to COVID-19 pandemic, when mode of education shifted from offline to online it gave us a chance as educators to explore this application in many ways for facilitating the process of Teaching and learning. We are reporting here different applications that we have explored in our institute TMV's Lokmanya Tilak Institute of Pharmacy, Kharghar during this crisis.

3.1 Student's information:

After the admission process, institution may require basic information of their student for further reference in a well sorted manner like in logs. Google form can gather that information easily. The Author has created a Google form with the students name or roll number assigned to them and all the information he/she needs to submit. Each time when students respond to the form, their respected information gets logged into a spreadsheet automatically where professors and any institution faculty or staff can review that data and use it wherever required. These type of forms may include tabs like name, birthdates, address, permanent registration number, blood group of student, students and parents contact details like email, mobile numbers etc. This form is customised as per the requirement of institution. So one can add or remove the tab as per the requirement of their respective institution. This form helped us to collect all required student data in very precise and automatic way than the offline mode.

3.2 Attendance:

As mentioned earlier, PCI reserved few marks for attendance of each student for each subject. So whenever lectures were conducted by professor that had to be documented precisely. In the online mode of lectures roll call method was not suitable to conduct attendance because of network issues, or technical issues at student side, as it would be unfair in case if someone missed in the process. The author has created GFs to collect on time attendance through the link provided them during lecture. This form helps us to collect exact, true and precise attendance. The form includes tabs like name, roll number, email etc. He has also customised this attendance form to know students understanding and doubts about same session. This information is logged in the spreadsheet and we can process that data as

per the requirement. For example if you need to find information like how many students have attended a particular session of particular subject, how many lectures attended by a student in particular time of span. This information also helped us to maintain attendance profile of each student.

3.3 Quizzes:

Online quizzes are fun for students and they found it more interesting than traditional activity. It helps professors and students to check the existing knowledge before the lecture and to evaluate understanding of student after the session. We have noticed that if we assign a small quiz on the topic before the lecture, it sows the seed of curiosity in the student's mind which helps them to focus during lecture. In addition to this, quizzes not only help student to retain information effectively but also help to identify gaps in the knowledge.

The author created quizzes on each topic and shared its link with students before and after the lecture to fulfil its purpose effectively. To make quizzes more interesting, the author incorporated different Images and figures in it, and also customised themes of the quiz to make it more student-friendly. Each quiz had around 10 to 15 questions. Mostly all questions were in MCQ format and sometimes, one word, short answer type of quizzes were also created. If professors needed the student to identify a tissue, dosage form, or any structure, formula one can frame questions for identification of Image (Example: Equipments, Tissue, Molecular structure, Organism, Plant species etc).

All these quizzes are set to auto correction mode. This is the most important feature of Google form which is useful for professors. Respondent can get score on the spot after submitting the quiz or after manual correction is done by their teachers. Professors can do setting to the quiz in a such way that student would get information like how many answers were correct, how many were incorrect and if incorrect what should be the right answer for it with explanation. This feature stands out in Google form and makes it different than other quiz tools.

3.4 Assignment and Assessments (Theory and Practicum)

Assessments are the systematic way to evaluate the learning and development of students during specific period of academic semester. As per the B. Pharmacy course curriculum by PCI, It has major role in awarding marks for each student to evaluate their performance. Thus giving assessment for theory as well practicum subjects is one of the most important parts of academic role of pharmacy professor. All these assessments are theoretical, in which students are provided with Google form in which short answer and long answer type questions are asked to answer. We had given them two types of activity. First was open book test in which they have to write answer on the answer sheets within given time and had to upload scanned pdf/images with the Google form. We have categorised it as "Assignments". Another way was they had to write answers in the space given in the GFs for typing their answers. We termed it as assessment⁶. Evaluation for both was manually done. Students were expected to draw images and to upload with the answers wherever necessary. All the PDFs which were collected through assignments activity get automatically stored in the Google drive with separately accessible links. This is the best feature of Google form which make professors task very easy.

3.5 Project submissions:

Objective of the Pharmacy education curriculum is not only to deliver theoretical knowledge but to let student understand their subject matter by applying it to projects. PCI has given marks weightage to teacher-student interaction which can be fulfilled through project works. Those project may includes, presentations, model making, poster making. With the Google form we had asked students to submit their projects Images, Audios, Videos and pdfs format, which help professors to collect, organise, and evaluate those projects systematically. All these responses get stored in the Google drive with individually accessible links.

3.6 Feedback:

Feedbacks are of utmost importance for growth of any institute and faculty. Thus student and parent's feedback need to be requested from time to time. These feedbacks usually needs to anonymous for getting to know unbiased opinions and suggestions. We as an institute created a Google form for feedbacks and requested all students and parents to submit within this study time. Anonymity could be maintained through the use of GFs, by adjusting the data privacy. This is difficult to do using physical or offline methods. Anonymous feedback tends to be unbiased and genuine, which proves to be very helpful for the institute's progress.

3.7 Data processing:

As a form creator one can view the responses through summary mode as well as in spread sheet format. The summary includes pie diagrams and graphs/charts which help one to understand statistics of responses. All the recorded responses in spreadsheet can be used for further data processing. One can download spreadsheet, share spreadsheet and do collaborative work with other team members and with the students. Google allow us to do all possible excel sheet functions with the recorded data. This feature is much helpful for survey research in pharmacy.

3.8 Miscellaneous:

1. E-Election voting forms for college student council.
2. e-Library books demand forms
3. Laboratory utensil breakage forms
4. Admission forms
5. Competition entry and submission forms

4. CONCLUSION:

Paperless, ecologically friendly, time efficient, less labour intensive, ability of precise recapitulation of respondents' responses, and usability are all advantages that GFs offer over a handwritten questionnaire. The existence of technology that aids our job must be carefully utilised. Author looked at pandemic as an opportunity to utilise technology in efficient way so the Google form. Google form proved to be important tool for institution for collection of lots of data in all possible aspects.

Professor of pharmacy colleges can use GFs for a variety of productive tasks to collect data, to process it, to organise it and documentation of data from students. Addition to it they can share and collaborate with colleagues at the same time to build surveys. Forms can be used for lesson planning, surveys, assignments and assessment forms, project submission, attendance, quizzes and feedbacks which benefit teaching and learning. So now Google form is not limited to just to build quizzes and surveys, but it can also be used for many documentation tasks, such as managing assignments, collecting student feedback, writing book reviews, and collaborating on group projects. On the other side, it is indisputable that GFs cannot replace face-to-face meetings between educators and parents to provide progress reports and exchange information on students. But the advantages and applications explored and outlined by the Author, make GFs a tool that can add on to traditional teaching methods in Pharmacy Education as its discovered advantages may potentially outweigh those of the traditional techniques of offline teaching and learning. In addition to this, it has certain special advantages applicable specifically to pharmacy education, as outlined above. It won't be surprising to expect Google form to persist beyond the lockdown when institution switches back to offline mode.

5. FUTURE SCOPE FOR RESEARCH:

It is evident from the features, applications and its advantages explored and outlined by the author in this report that GFs may have advantages over traditional teaching methods. It opens up the path for exploring possibility of Research studies that can be conducted to compare and specifically find the

observed difference in teaching and learning by application of Google form. It may be hypothesized that GFs pose advantages over the traditional teaching tools in Pharmacy education. Individual hypothesis can be tested by collecting further data in a specific and planned manner, with the application of statistical analysis, to conclude about the same.

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