

# A Review on Virtual Classroom

Saba Maanvizi\*, Jiyaram Neha Jaiswal, Ravi Ram Narayanan, Rajendra Rohit Jain

Department of Pharmaceutics, Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai, Tamil Nadu, INDIA.

## ABSTRACT

A virtual classroom is an online learning method that is carried out via internet that provides communication for distance learner just like face-to-face classroom. This field of education is going to be in high trend in the upcoming days and soon will be replacing the traditional mode of education as internet dependent learning is growing rapidly in almost every schools and colleges. Two major forms of virtual classroom are synchronous and asynchronous. In virtual classroom it's the choice of student to take synchronous form of learning or asynchronous form, if synchronous is selected the online teaching is scheduled which is led by a teacher and students can interact at same time and can get their queries solved at the same time even from remote area. In asynchronous form the learner attain their education at their own pace and at their convenient time and it is time independent which in turn is sought to control the order of activities. It is a great field as the students can clarify their doubts at any time from any place. One of the important goals of this application is to improve collaboration among teachers and students.

**Key words:** Virtual classroom, Synchronous, Asynchronous, Education, Challenges.

## INTRODUCTION

Education is considered to be the primary factor for the economic growth and social change of any country. The mode of education is getting easier day by day. The new education systems are using various technologies to deliver education. Currently, the most trending field of education is virtual classroom. The term virtual defines simulation of real thing.<sup>1</sup> A virtual classroom is an online learning method that is carried out via internet that provides communication for distance learner just like face-to-face classroom.<sup>2</sup> It is the field of education that focuses on technology to deliver education to students who are not physically available on site to get their education.<sup>3</sup> In this, class can be attended by learners from any part of the world from any type of devices like laptop, desktop and mobile phones. This field of education is going to be in high trend in the upcoming days and soon will be replacing the traditional mode of education as internet dependent learning is growing rapidly in almost every schools and colleges. Many

university-based syllabuses are converted into e-forms so that it can easily be accessible via internet from any part of the world and this urges the faculties of schools and universities to create online version of their own contexts.

Certain circumstance has led to the constant growth and acceptance of distance education where geographic location plays a major role. It is a field which allows the learner to choose their subject of interest, context related to their goals and needs, comfort of environment and technological methods in their preferred time. In the modern world (21<sup>st</sup> century), virtual classroom has become a blessing for both the teacher and students, as both are separated through geographic means and may not be available at the same time. It has made the education system easy and has helped the students in saving the time. Study of human behavior, education, skill training and gaming extensively uses virtual environment. One popular use of virtual environment is neuropsychological

Submission Date: 29-10-2019;  
Revision Date: 22-04-2020;  
Accepted Date: 02-07-2020

DOI: 10.5530/ijper.54.3s.141

**Correspondence:**

**Dr. Saba Maanvizi**

Department of Pharmaceutics,  
Sri Ramachandra Faculty of Pharmacy,  
Sri Ramachandra Institute of Higher Education  
and Research, Porur-600116,  
Chennai, Tamil Nadu, INDIA.  
Phone: +91 9841162130  
E-mail: sabamaanvizi@  
yahoo.co.in



[www.ijper.org](http://www.ijper.org)

assessment in virtual classroom; to evaluate the attention performance of school-aged children they simulated the real classroom. The children spent more time in the simulated classroom than the real classroom, where they must be more attentive to any classroom task. To make them pay attention in real classroom this virtual classrooms are immersive, for these school-aged children.

### Forms of Virtual Classroom

The two major factors for conducting virtual learning are participant's location and time. As a type of distance learning, it requires a divergent location, learners and mentors. As long as time of learning is considered virtual learning forms two main categories. That is synchronous and asynchronous.<sup>4</sup>

#### Synchronous

Synchronous virtual learning takes place in live mode including online seminars, communication and mobile connection. Demonstration, discussion and lecture stations can be conducted in synchronous environment by allowing the learner and mentor to take part in one-on-one and group discussion. This system allows immediate feedback by just in time clarification and information, this feedback helps to assess the knowledge of the student and can direct the mentors to work on the required field. The attendance in synchronous learning is provided by video conference. Participants can contact each other and discuss at the same time due to the option provided by the virtual learning environment. It occurs via VMLS (Virtual Management Learning System) platform.<sup>4,5</sup>

#### Asynchronous

In this type of learning the learner attain their education at their own pace and at their convenient time. It is time independent which in turn is sought to control the order of activities. All over the period of learning, one can access the available material from online platform, there is no requirement of downloading the study material as it is available on the site. Here the direct contact with other participants and the mentor is voluntary as the learner can learn at their own preferable time by selecting from reading resources, video lessons, sessions and discussions. Here the interaction between the candidates is made in form of personal messages and mails which forms asynchronous form of virtual learning. This is a slow type as facilitators later evaluates the outcomes and then gives feedback on student and the grades obtained by them.<sup>4,5</sup>

Example: Smart classes and learning applications like BYJU'S

### Characteristic Features

Virtual classrooms are cherished for its great features. It is cost-effective, flexible, easy accessible, collaborative and experimental.

#### Flexible

When compared to traditional classroom, virtual classroom are found to be more flexible. It enables the learner to communicate with the tutor from any part of the world for a particular course at a convenient time. Above all, learner can use their free time for learning as they need not be present in the classroom physically.<sup>6</sup>

#### Easy accessibility

It is easily accessible from any geographic location of the world and the topic can be searched by the learner in which he/she is interested and can be joined. Since candidates can learn from home, they need not go through the pain of travelling and waiting. Hence it is savior.<sup>6</sup>

#### Cost-effective

Virtual learning is cost effective as the learner need not spend bulk amount in order to join any course or travel long way to come and pursue certain courses away from home. The required course can be joined in restricted amount which is affordable by the candidate.<sup>6,7</sup>

#### Collaborative

In the present days, the virtual learners are working with each other even better. Teams or groups are formed for projects or group discussions and competition is set among the candidates for high scores on leaderboard. Virtual classroom is a place where learners build relationship with fellow learners over shared interest.<sup>8</sup>

#### Experimental

The hallmark of learning is innovation which is apt for both the learners and tutors. Virtual learning provides new techniques for tutors to deliver stimulate, engage and protective learning content. In succession, candidates in the appropriate field with the subject in new methods, depicting what works and what does not work can be known from the online learning.<sup>9</sup>

#### Features/Tools

The different features of virtual classroom that makes learning productive and interactive are listed below.

#### Live audio and video support

Both audio and video help in the e-learning process via virtual classroom. This allows the learner to study verbally through audio conference and allows them to share videos through web camera. Videos can be shared

by professionals by establishing one-to-one relation with the learners. By this, confidence builds in students about pedagogy.

### Session recording

For future reference, the entire classroom session is recorded as a video and kept in library. It is very much beneficial for the absentees as then they can review the recording and go through the concepts taught by the professors. Above all, student can use the recorded videos for future reference.

### Sharing of learning resources on desktop screen

This allows the tutor to share various content in different formats with the learners MS Word, MS Excel, PPT, PDF, flash these are the common means of formats used by the professors. This resource is extremely beneficial for sharing different subject materials like notes, diagrams, learning videos etc. this material makes the learning predictive and interactive.<sup>9</sup>

### Whiteboard

Whiteboard is a substitute to traditional method. It is the tool that is used to draw graphics and figures in virtual classroom. A professor uses it to explain the content visually by drawing or other means. The professor draws graphics when requested by the students. It is beneficial to emphasis the concepts.<sup>10,11</sup>

### Classroom controlled by Professor and active student participation

In virtual classroom when the tutor takes up a lesson, the students are not allowed to talk among themselves in order to avoid chaotic situation. Do being connected with audio/video conference; the professor controls the participants in proper way. Whenever student has a doubt to be clarified or has any other queries, they can set this status to “raise hand” which depicts that the professor has to address the questions of the student. Only one student is allowed to interact at a time in order to prevent commotion.

### Live tech support

This feature provide text based chat and live tech support for both the learners and the users. Live tech support help the user to interact on spot. It is yet another beneficial element of virtual classroom.

### Advantages

- ✓ It is a high degree of interactive as it provides immediate answer for the questions and allows interaction with other participants.

- ✓ It is easily adaptable in education field.
- ✓ Acts as a great saver of time and money.
- ✓ Allows the learner to work in small or large groups as well as allows for direct collaborative and share experience.
- ✓ Provide sufficient time for work related to subjects and formulation of valid questions and answers.
- ✓ Education can be taken place at any preferred time at its own speed.
- ✓ Virtual classroom are not restricting as tutor and candidates participates in live session.
- ✓ Learning can no more be done between four walls. With virtual classroom, learning can now take place anywhere, everywhere and any time.<sup>12,13</sup>

### Disadvantages

- ✓ The time is limited for considering read responses.
- ✓ The method of virtual learning can affect the performance of some learners and they may not be comfortable with it.
- ✓ Effective learning in virtual classroom is dependent on the features of the computer system and quality of Internet connection.
- ✓ The degree of interaction is low.
- ✓ It may take time to give feedback and the interaction between the users is limited.
- ✓ The users are isolated from each other as they do not have any live contact.

### Trends and Challenges in Virtual Training

A trend of shorter virtual classroom is taking place nowadays. In 2012, it was reported that most of the virtual classroom took place at about 60-90 min. At present the virtual class takes place only about 60 min only and 15% of the survey found that there are virtual classes which exist at about 45 min or less only.<sup>14</sup> Usage of web cameras in virtual classes by the mentors is only 23%, which make completely surprising in this modern era. At about 42% of people use their webcams only in the beginning of the session and then turn them off. Many reasons were given for this, the one which top the list was lack of internet bandwidth, along with audio and other technology challenges. All the study materials including daily lectures had to be transferred online in this program. Many universities worried regarding the connection of instructors and students as they suffered from being out of site and hence out of mind; and how to transfigure student from dependent into independent learner who can interconnect with their instructors and peers.

## Traditional Method Vs Virtual Classroom

In traditional classroom the subject to be studied is given, the time table for its study is made available, the teachers for each topic is allotted, a classroom with four walls is provided, the time for each teacher is allotted, the time for students are also fixed, in some cases along with black board projectors and smart TV is provided, there are also time when students hunt for their teachers to get a query solved, or some time teachers are made to wait for all students to arrive.

In virtual classroom it's the choice of student to take synchronous form of learning or asynchronous form, if synchronous is selected the online teaching is scheduled which is led by a teacher and students can interact at same time and can get their queries solved at the same time. This is done with the help of internet at any type of device. In asynchronous form the learner can use their free time for gaining knowledge in their topic of interest from anywhere without using the four walls.

In normal classroom teachers, learners and fellow students are present in the similar way in virtual classroom same set of people are present, like in traditional classroom teachers uses blackboard for any diagram and figures and interact with students ask them questions or evaluate them similarly in virtual classroom whiteboard is present to draw the necessary things and live chat option is given to ask any question and regular tests are conducted to evaluate the students and give feedback regarding them.

## CONCLUSION

The major reason for this mode of education is student's comfortability. This is the best way to reach globally distributed learners. As it saves time and money, the learner will have more time to learn or if he wants to do something else. It is a great field as the students can clarify their doubts at any time from any place. It brings a type of competitive spirit which in turn leads to progress in one's academic performance. The students who learn through virtual classroom is seem to have more knowledge and good performance as they study with their own interest and not by force which normally occurs in traditional classrooms. Even if learner forgets any concepts, they can review the recorded videos and get them revised. In this application, both the tutor and the learner is benefited in training and learning. One of the important goals of this application is to improve collaboration among teachers and students. The physical barriers between classroom and student have been minimized due to virtual classroom. Future scope of this field is to make application that will help the user

in many platforms and would be more useful and more user-friendly on the basis of the user's experience.

## ACKNOWLEDGEMENT

We would like to thank the management of Sri Ramachandra Institute of Higher Education and Research (DU), Porur, Chennai-600116 for their continuous support during this work.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## ABBREVIATIONS

**VMLS:** Virtual Management Learning System; **MS word:** Microsoft word; **MS excel:** Microsoft excel; **PPT:** Powerpoint Presentation; **PDF:** Portable Document Format; **TV:** Television.

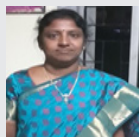
## REFERENCES

- Ozgur Y. The effects of "Live Virtual Classroom "on students 'achievements and students' opinions about "Live Virtual Classroom" at distance education. *The Turkish Online Journal of Educational Technology*. 2015;14(1):108-15.
- Timelesslearntech.com. Virtual classroom, online classroom. Available from: <http://www.timelesslearntech.com/virtual-classroom-explained.php>
- Zobair M, Khondaker R, Mahmudul H. An Implementation of Virtual Classroom and Performance Analysis of Teaching-Learning Outcome. *Global Journal of Computer Science and Technology: C Software and Data Engineering*. 2015;15:1.
- Vedamo.com. Veronica Racheva: What is synchronous and asynchronous virtual learning?. 2017. [cited 28 June 2017]. Available from: <https://www.vedamo.com/knowledge/synchronous-asynchronous-virtual-learning/>
- Vdocipher.com. Virtual classroom: Learning beyond four walls. 2018. [cited July 23, 2018]. Available from: <https://www.vdocipher.com/blog/2018/07/virtual-classroom/>
- Eztalks.com. Janice: What is Virtual classroom?. 2017. [cited August 8, 2017]. Available from: <https://www.eztalks.com/online-education/what-is-virtual-classroom.html>
- Elearningindustry.com. Arunima Majumdar: 5 teaching techniques in the Virtual classroom. 2016. [cited May 8, 2016]. Available from: <https://elearningindustry.com/5-teaching-techniques-virtual-classroom>
- vedamo.com. Veronica Racheva: What is Virtual classroom. 2018. [cited 9 May 2018]. Available from: <https://www.vedamo.com/knowledge/what-is-virtual-classroom/>
- Learn Dash.com. Characteristics of Virtual classroom Justin Ferriman. 2019. [updated April 1, 2019] available from: <https://www.learn-dash.com/characteristics-of-a-virtual-classroom/>
- learncube.com. What-is-a-virtual-classroom. Available from: <https://www.learncube.com/what-is-a-virtual-classroom.html>
- vedamo.com. Andrey Basat: The power of Virtual classroom. 2018. [cited 8 May 2018]. Available from: <https://www.vedamo.com/knowledge/power-virtual-classroom/>
- Cae.net. Carmen D: what is Virtual classroom. and how to use them effectively. 2018. Available from: <https://www.cae.net/what-is-virtual-classroom-and-how-to-use-them-effectively/>
- Trainingindustry.com. virtual-classroom. 2019. Available from: <https://trainingindustry.com/glossary/virtual-classroom/>
- Learning solutionsmag.com. Cindy Huggett: Virtual training survey reveals 2019 trends, surprises. 2019. [cited March 6, 2019] Available from: <https://learningsolutionsmag.com/articles/training-survey-reveals-2019-trends-surprises>.

## PICTORIAL ABSTARCT



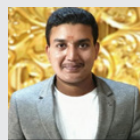
### About Authors



**Dr. Saba Maanvizhi**, is currently working as an Associate Professor at Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education and Research (DU), Porur, Chennai -116. Research area of interest includes Formulation & Development, Novel Drug Delivery System, and Regulatory Affairs. Gold medalist at Under Graduate & Post Graduate levels for her outstanding performance.



**Ms. J Neha Jaiswal**, is a M.Pharm Student in Department of Pharmaceutics at Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education and Research (DU), Porur, Chennai -116.



**Mr. R. Ram Narayanan** is a B. Pharm Final Year Student at Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education and Research (DU), Porur, Chennai -116. His field of interest is NDDS and herbal research. He has presented posters in national and international conferences. He has received Thiru N.P.V. Ramaswamy Cash Award for securing Highest Mark in the University Exam.



**Mr. R. Rohit Jain** is a B. Pharm Final Year Student at Sri Ramachandra Faculty of Pharmacy, Sri Ramachandra Institute of Higher Education and Research (DU), Porur, Chennai -116. He has served as a Student Council Member for Sri Ramachandra Faculty of Pharmacy at the University level.

**Cite this article:** Saba Maanvizhi, Jaiswal JN, Narayanan RR, Jain RR. A Review on Virtual Classroom. Indian J of Pharmaceutical Education and Research. 2020;54(3s):s433-s437.