

## IMPROVING LEARNER'S EXPERIENCES FOR ICT ENABLED VIRTUAL TEACHING LEARNING ENVIRONMENT AND IMPACTING SATISFACTION LEVEL OF THE STUDENTS THROUGH THE USE OF GOOGLE CLASSROOM

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### ABSTRACT

*The present study discusses a use of ICT Enabled teaching learning environment in the form of one of the easiest available app technologies from Google – the Google Classroom in improving learner's experiences during traditional classroom teaching. The researcher aimed at impacting classroom experiences through a two-way process of firstly flipping the classroom by providing online study material as content and videos well in advance of class so as to enable learners to view and understand subject matter outside the class and then supplementing this understanding during traditional classroom scenario and secondly by providing one step destination for all teacher developed notes, submission of assignments and online quiz evaluation. A sample of study was learners of integrated teacher education program. A tool of the study was student satisfaction index scale. It was mixed method-quant-quant approach whereby during experiment researcher taught learners for one semester and enabled them to experience the ICT Enabled Teaching Learning Environment and secondly by collecting the data for student satisfaction index through the online survey, which was facilitated by google forms and distributed through google classroom. The discussion with learners revealed that students were happy using it because everything was easily available at one point and it was not lost in emails as was the case with other subjects. The results of the survey revealed hundred percent agreement for likeness factor. Other factors like ease of use, interest level and content quality also received a majority of positive agreement. The study concluded that student's satisfaction level increase tremendously through the use of Google Classroom.*

**Key words:** ICT, Google classroom, Integrated Teacher Education Program, Satisfaction Index

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### INTRODUCTION

Education has been the focal point of all the human activities from time immemorial, since it has been considered as imminent not only for

inculcating the desired changes in the society but also for diffusing and dissipating them. The concern towards this cause has led to the innovations and reforms in the education system

world over. Today the advancements in technology has touched almost every facet of human endeavor and education is no exception. The education has evolved from teacher centered era to the student centered era; and from regular mode to distance mode to online mode. Online learning environments have metamorphosed from less engaging course delivery modes to interactive platforms for online learning environments.

The spread of online culture has resulted in the stupendous upsurge of online enrolments. 'For the past eight years' online enrollments have been growing substantially faster than the overall education enrolment' and somewhere around 2014 at least 32% of the students were enrolled in at least one online class and 77% rated online learning outcomes as equal or superior to traditional class. (Allen & Seaman, 2014, p.7). The reason for this growth can be attributed to development of computers and electronics which has removed the barrier of time and space (Horton, 2000, p.6); limitless geographical boundaries and large savings on travel and expenses in comparison of face to face learning (Li & Irby, 2008) and lot more.

This online upsurge has put into danger the very existence of traditional modes of education system. Since humanity is all about change and Darwin's theory of survival of fittest holds true for almost every sphere of human life, abodes of knowledge today have also realized the do or die situation. This has resulted in not only innovative modes of offering the programs on campus but has also led to the evolution of some very interesting teaching learning strategies. As a result, the institutes world over are transforming themselves, and institutions like National University, California are offering 605 of their courses online with most of their

traditional classes including the online component. (Silverstone & Keller, 2013).

In India a number of traditional institutions, in order to have a competitive edge in the market, are opting for the online learning environments in teaching, learning, evaluation as well as in administration. At the same time the distance education institutions and traditional institutions alike are struggling financially as well as technologically to match the pace of rapidly evolving technology that is being offered to facilitate online platforms. The innovations in technology impacts the delivery of course content (Calis, 2008; Chakraborty & Nafukho, 2014). Thus there is a continuous need to upgrade and innovate the virtual learning environment. With this need arises several challenges which include limited supervision from instructor (Mgutshini, 2012); inefficient use of technology (Bonk & Graham, 2006); lack of sufficient funds on the part of a majority of institutions and so on.

### **Technology and Virtual Learning Environments**

The challenges involved in using technology has motivated the humble institutions who still believe in traditional learning environments but want to keep pace with the changing society and world at large; to look for the options that are free or comparatively cheaper as compared to the latest technology. Technology has much to offer and over the years it has modified itself to promote, support, accommodate and adopt education and their teaching learning environment world over. Google with its different user friendly freely available apps for facilitating virtual learning environment; is currently the most favored virtual learning platform.

The availability of technology enabled

online courses and various virtual content has motivated the teachers to adopt synchronous virtual classrooms that enable them to interact with the students in real time. (Martin & Parker, 2014). Further the virtual classroom, a synchronous form of e-learning has been embraced by many organizations their attempt to promote workforce learning while trying to cut travel time and cost associated with face to face instructor led training. (Xanthoula, 2015)

### **Google as Virtual Learning Space**

Google is reshaping the IT workforce. It has simplified our architecture, it has connected our community, and it has given us a way to achieve the things that we really want to do.” (Bergsmark, Associate VP of UIS and former Georgetown adjunct faculty) “G Suite makes it easier for faculty to do some more creative, cutting-edge teaching.” (Sarah Noell, Assistant Director of Outreach, Communications and Consulting in the Office of Information Technology at NC State University), University of Minnesota deploys G Suite to all students, staff, and alumni—expecting annual savings of between \$2-3 million. University of Michigan unifies 19 schools under a culture of collaboration with G Suite for Education. Google is changing the way Vanderbilt students engage, interact, and learn.” (Wyatt Smith, former Vanderbilt student government president).

### **Google Classroom**

Google classroom is a virtual learning management system for school that aims to simplify creating, distributing and grading assignments. It was designed with teachers and students to easily connect the class, track their progress and achieve more together.

Google classroom is one step destination

managing the class with ease at the virtual learning space. It facilitates flipping of the learning space by sharing in of the material and reference videos for the students to preview. It also facilitates the discussions and the comments in order to enhance interaction and resolve queries. Further Google classroom create classes, distribute assignments, give quizzes, send feedback and see everything at one place.

Several researchers have highlighted the benefits of using classroom. It simplifies the instructional interface and options used for delivering and tracking assignments (Janzen, 2014); it saves time because of features like export grades to google sheets, upgrade point scale, key board navigation, etc. (Chehayeb, 2015); facilitates cloud based communication tools (Mary, 2014); ensures streamline counselling (Keeler, 2014).

The success of Google classroom and its rapid diffusion can be attributed to the fact that it has succeeded in bringing out the desired outcome by reducing the uncertainty involved in delivery and retrieval of the virtual communication.

### **Objectives of the Research**

The research review provided a base and motivation to use Google classroom and seek the review from the students as well as the teacher. Thus the objective of the research was to

1. What is the level of Google Classroom Satisfaction Index among the Learners of Integrated Teacher Education Program?
2. What are the responses of the learners on the Google Classroom Satisfaction Index for ICT enabled Google Classroom as the virtual learning environment?
3. What are the reflections of the researcher on

the intervention program for the use of ICT enabled Google Classroom as the virtual learning environment?

### Methodology and Sample of the Research

The study was carried out by the mixed method approach. The population of the study was about 350 student teachers pursuing Integrated teacher education program in Indian Institute of Teacher Education, Gandhinagar Gujarat. The sample of the study comprised of 60 student teachers. The researcher used the Google Classroom as a virtual learning platform for Under Graduate and Post Graduate classes of Integrated Teacher Education Program. These programs were Fifth Semester of Integrated B.Sc. B.Ed. and B.A. B.Ed. and third and fifth Semester of Integrated M.Sc. M.Ed. The

subjects taught included Curriculum Transaction, Methodology of Educational Research and Psychological Testing respectively. The sample selection was purposive sampling since the students using Google classroom as virtual learning environment were only selected.

### Intervention Program: Virtual Interface of Google Classroom

The students were taught in traditional face to face learning environment and this traditional mode was supplemented with virtual learning platform of Google classroom. Three separate classrooms were created for each semester. All the announcements, study material, assignments and projects, evaluation quizzes etc. were regularly posted in the classroom.

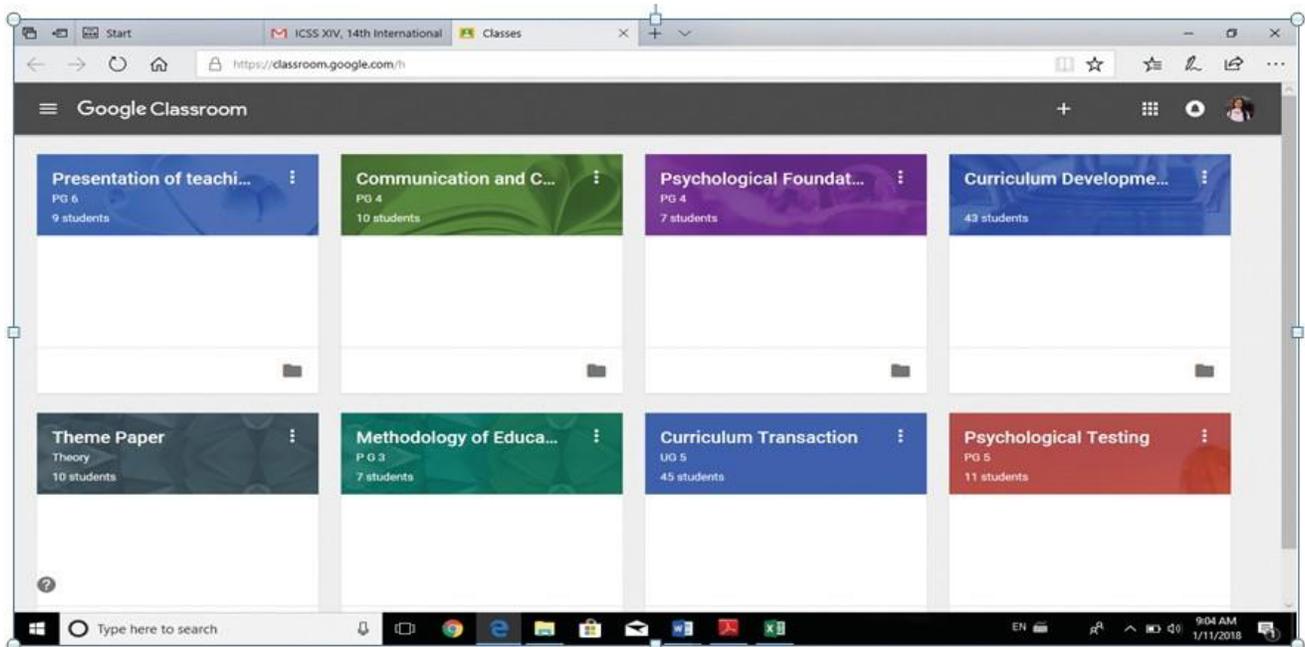
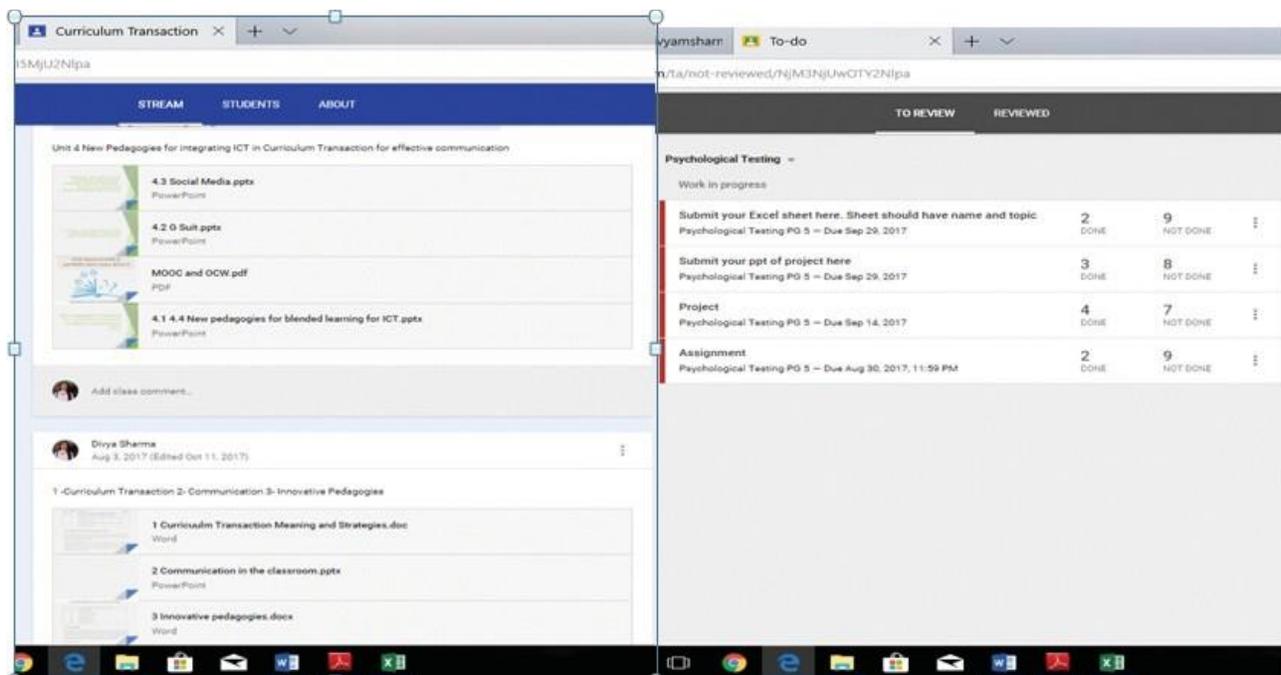


Figure 1: Print Screen of the Google Classrooms created by the researcher



**Figure 2: Print Screen of Teacher Interface for Curriculum Development Class and Student Interface for Psychological Testing Class**

Finally, at the end of the semester the Student Satisfaction Index was calculated by tabulating the percentage of students on each parameter.

### **Tool of the Study**

The data were collected through the Google Classroom Satisfaction Index prepared by the researcher. It was a three-point rating scale with options such as agree, neutral and disagree. Positive statement was rated as 3,2,1 and negative statements were rated as 1,2,3, The scale was validated by the expert advice. The scale had 20 statements. The scale was divide into four components – likeness for Google Classroom, attitude towards accessing the content in Google Classroom, usefulness of Google Classroom for the Teacher.

The maximum score on the scale was 60 and

minimum score was 20. The scale was divided into three levels based on the average range of the difference between the minimum and the maximum score. The difference of 40 was divided into lower 75% and upper 25%. The 75% was further divided into two parts of 35% each having the raw score range of 15, to get low and medium levels and upper 25% having a raw score range of 10 was kept for Higher satisfaction. Thus, the scale was divided into three levels- 20-35 (Low Satisfaction Index), 35-50 (Medium Satisfaction Index) and 50-60 (High Satisfaction Index). The study was carried out through survey method of research. The sample of students for the experiment study was 60. Out of them only 20 students participated in online survey.

## Analysis of the Data

**Table 1. Google Classroom Satisfaction Index Scale**

S.No.	Statements	Response in Percentage		
		Agree	Neutral	Disagree
1	I like using Google Classroom because it is easy to use.	100	00	00
2	I likeGoogle Classroom because notes are easily available at one place.	75	25	00
3	I likegoogle classroom because additional videos are given.	65	30	05
4	I likeGoogle Classroom because it is free.	70	15	15
5	I watch other videos while watching videos in Google Classroom	30	30	40
6	Reading notes Google Classroom is interesting.	80	20	00
7	Reading notes on Google Classroom is boring.	05	20	75
8	Using Google Classroom is difficult.	00	05	95
9	I will use Google Classroom even when it is costly.	15	55	30
10	Need of Continuous internet connection is a barrier in use of Google Classroom	45	35	20
11	I like Google Classroom because it makes learning interesting.	80	20	00
12	Google Classroom saves the time of teacher.	75	25	00
13	Google Classroom is beneficial for only students who know technology.	45	30	25
14	Google Classroom is beneficial to intelligent students only.	05	20	75
14	Google Classroom is barrier for students who don't know technology.	30	40	30
15	Google Classroom wastes lots of time of teacher.	00	05	95
16	Google Classroom saves time of teacher because content is flipped and given in form of video and notes.	75	25	00
17	Content given in form of video and notes make me lazy in accessing it.	20	40	40
18	I do not check content given in form of video and notes immediately.	25	40	35
19	I sincerely watch the content given in form of video immediately.	50	45	05
20	Sending the content in Google classroom is of no use.	15	05	80

### Results ofStudy

The results of study are divided into two sections asunder:

#### Google Classroom Satisfaction Index

Google Classroom Satisfaction Index was calculated by scoring the individual responses as per the scoring procedure and then tabulating the frequency distribution for the score. The classification of the index was –

- A score between 20-35 indicates low satisfaction index and none of the learners fell in this category.

- A score between 35-50 indicates medium satisfaction index and 15% of the learners fell in this category.

- A score between 50-60 indicates high satisfaction index and 75% of the learners fell in this category.

### Results of the Survey

As is the limitation of all the online surveys, only 20 students participated in the survey as against 60 in the experiment. The survey results were very encouraging.

**a. Likeness for Google Classroom**

1. 100% learners accepted their likeness for the Google Classroom. Though the reasons for this likeness were varied.
2. 75% learners liked Google Classroom because notes are easily available at one place.
3. 65% learners liked Google Classroom because additional videos were given.
4. 80% of the learners liked Google Classroom because it makes learning interesting.
5. 70% learners liked Google Classroom because it was free while only 15% of the students agreed that they will use Google Classroom even when it is costly.
6. 80% learners felt that reading notes Google Classroom is interesting and only 5% felt that reading notes Google Classroom is boring.

**b. Attitude Towards Accessing the Content in Google Classroom**

1. 20% of learners agreed while 40% disagreed on the point that Content given in form of video and notes make them lazy in accessing it.
2. Only 25% of the learners agreed while 35% of the learners disagreed on the point that they do not check content given in form of video and notes immediately.
3. 50% of the learners agreed on the point that they sincerely watch the content given in form of video immediately.
4. Only 15% of the learners agreed while 80% of the learners disagreed on the point that Sending the content in Google classroom is of nouse.

**c. Barrier in accessing the Google Classroom**

1. Only 45% of the learners felt that need of continuous internet connection is a barrier in use of Google Classroom

2. Only 45% of the learners felt that Google Classroom is beneficial for only students who know technology and 25% of the students disagreed on the point.
3. Only 5% of the learners agreed while 75% learners disagreed on the point that Google Classroom is beneficial to intelligent students only.
4. 95% of the students disagreed that using Google Classroom is difficult.
5. Only 30% of the learners agreed while 30% of the learners disagreed on the point that Google Classroom is barrier for students who don't know technology.

**d. Usefulness of Google Classroom for the Teacher**

1. 75% of the learners felt that Google Classroom saves the time of teacher.
2. 75% of the learners felt that Google Classroom saves time of teacher because content is flipped and given in the form of video and notes.

**Reflections from the experiment**

During the classroom teaching the learners were motivated to check the study material which was provided to them for the next session. The Wi-Fi enabled campus and android phone with most of the learners made the task of the researcher easy. The learners were motivated to use their phones for the logging in for the Google Classroom. Initially some of the learners were reluctant in using it but eventually they realized that it ends the woes of searching the mails and requesting the friends for the notes. Peer participation and collaboration was tremendous, During the submission of assignment discussion were prominent. These discussions were related to the type of content to be written, the length of the content and clarity on the manner of submission of the assignments. The online submission of the projects which

were making online quizzes in google forms and then implementing them online attracted lots of student teachers.

The researcher was able to give the notes on time though preparing the notes became a cumbersome task for the study. Keeping the record of submissions was an easy process and extracting the data in the form of excel sheets made the evaluating experience even more better.

### Conclusion

Teaching learning environment is continuously reinventing itself in the era of technology. There is a need to accustom to the evolving technology at a pace that is similar to the pace of evolution of technology. The study clearly indicates a high satisfaction index of the learners in the technology enabled virtual classroom but at the same time it also indicates the likeliness of the learners cannot be attributed to a single factor. It is the result of the interaction of multiple factors that have to be taken care of while embedding the technology. At the same time surprisingly the barriers like net connectivity, lack of technology awareness, or the intelligence level were not cited as the barriers by the majority. This indicates that when it comes to liking a technology, there is nothing that can stop it. Further there are questions of intrinsic motivation and boredom when the content is virtually accessed. This has to be taken care of by the teacher when selecting and developing the content for the virtual learning systems. Finally, as far as teacher is concerned it is not the time saver in an overall perspective but it does save the classroom teaching time provided learners are motivated enough to dedicatedly follow what is being proposed.

Conclusively every stakeholder involved in teaching learning environment has to accept that technology in its present phase can neither be

neglected nor be befriended. There is a need to diplomatically articulate it for the benefit of teacher and learner alike.

### REFERENCES

- Allen, I. E. & Seaman, J. (2014). Grade change: tracking online education in the United States. Retrieved from <http://www.onlinelearningurvey.com/reports/gradechange.pdf>
- Berge, Z.L., & Collins, M. (1995). (Eds.) Computer-mediated communication and the onlineclassroom. Cresskill, NJ: Hampton Press.
- Bonk, C. J. (2011). *The World Is Open: How Web Technology Is Revolutionizing Education*. San Francisco, Calif: Jossey-Bass. doi:10.1002/9781118269381
- Bordbar, F. (2010). English teachers' attitudes toward computer-assisted language learning. *International Journal of Language Studies*, vol. 4, no. 3, pp. 27-54
- Introducing Classroom, A New Tool in Google Apps for Education. District Administration [Serial Online]. August 2014;50(8):52-53. Available from: Academic Search Premier, Ipswich, MA. Accessed October 18, 2015.
- Keeler, A. (2014). "15 More things you can do with Google Classroom". Retrieved from <http://www.alicekeeler.com/teachertech/2014/09/22/15-more-things-you-can-do-with-google-classroom/>
- Martin, F and Parker, M. A. (2014). Use of Synchronous Virtual Classrooms: Why, Who, and How? *MERLOT Journal of Online Learning and Teaching* Vol. 10, No. 2, June 2014 p 192-210  
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