Google Tools Supporting 21-Century Education

Shubhangi S.Pawde1, Rahul Gaikwad2

[1]Department of Chemistry, Shivaji Mahavidyalaya, Udgir, Dist. Latur-413517, Maharashtra, India

[2]Department of Chemistry, Shri Vitthal Rukhmini College, Sawana, Tq Mahagaon, Dist-Yawaymal-445205,

Maharashtra, India

ABSTRACT

Digital technologies used in the precise way offer potential never before imagined. It is entangled with humans day-to-day activities, perception, and thinking in modern civilization. Digital predominance highly influenced key aspects of society as growth, sustainability, welfare, equality, security, economy, democracy and Education. It constitutes a strong and powerful influencing force on how education is to be carried out and what is expected for the future generation .hence students and teachers must have access to modern learning tools that are required for contemporary education. This paper discuss about the effectiveness of using the e-environment based on G Suit for Education.

Keywords: G Suit for Education Google tools, efficiency and student's attentiveness, teaching, learning, evaluation.

I. INTRODUCTION

Education is the key factor for the progress of the society. It is changing as per the time. One should incorporate new and effective technologies to make education interesting and functional. Use of Google tools help us increase opportunities for critical thinking, communication, collaboration and creativity, all while supporting the standards and learning objectives that one have for the students. Covid-19 pandemic has been the major contributor for the use of such digital tools in education sector.

There are number of tools offered by Google for education. They have following features:

- Are free, ad-free, reliable and secure.
- Not bound by Geography (access available all over the world)
- Are available on any device or platform with 24/7 access
- Use one login for EVERYTHING!
- Provides interactive sessions
- Easy documentation
- Allows more control over your schedule

FIG 1: Google tools

1. Google Classroom

The Google classroom is available as an effective tool for developing teaching and learning process all over the world. Google Classroom provides a useful, interactive, and learner-centered atmosphere and turns out to be an effective substitute for the conventional teacher-centered chalk and talk classrooms. It is fascinating in educating and learning process. It is also trustworthy and efficient in improving student access and attentiveness towards learning, activities conducted in Google classroom changes students from passive to active learners.

It helps a teacher to keep track of the continuing progress of students through assignments and questionnaires. Parents can check and monitor the performances and progress of their children easily and at their convenient time. The learners, on the other hand, find in Google Classroom an effective medium to profuse their creativity. Being paperless is a crucial factor in developing learning strategies. Thus, and need less stored students can keep their files more organized paperless in a single program.

This tool is user friendly and have features shown in the figure 2 for its easy access
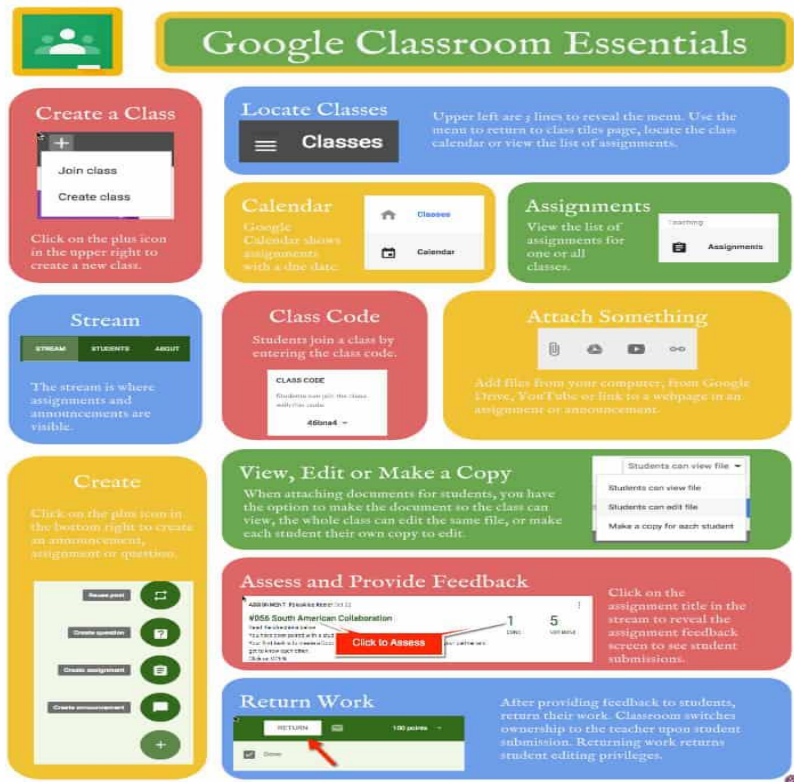

Fig 2:classroom essentials

It provides a stream line of communication and workflow for students. They can communicate through the tools described in table below.

9Table1:Google Communication Tools

Logo	Application	where	Description	uses
	Gmail	www.mail.google.com	email	Send and respond to email
	Google Contact	www.Contacts.google.com	Directory	Locate contact information
	Google Calendar	www.Calendar.google.com	Calendar	Schedule and respond to events with Teachers, Principal, students and experts.
	Google Classroom	www.Classroom.google.com	Classroom	**Assign class work digitally**
	Google Hangouts	www.Hangouts.google.com	**Text Chat**	online conversations in real-time
	Google Meet	www.Meet.google.com	**Video chat**	**Video chat with experts**

Google Classroom is a tool that connects Google Docs, Google Drive, and Gmail which allows creating and organizing assignments, assessing, commenting, and organizing effectively communication with students in real-time. The sharing of the information through these tools has strong, secure mechanism. It is having a wide range of other tools attached with it to make the education seemless with all possible creativities. Some of those are discussed below.

1. JAMBOARD

It is an online, digital and interactive whiteboard for synchronous or asynchronous remote teaching. It is a useful tool for promoting interactivity of classroom. It allows working as a team and staying organized. New features are constantly being added.

2. SLIDES

It is a Presentation tool having Multiple usages such as Access, create and edit with various types of templatesavailable.A wide variety of presentation themes, animations, embedded video are being used by number of teachers to make the education interactive.

3. SHEETS

It is a tool used to make Spreadsheets regarding budgets, schedules with Different templates allowing multiple usages like Access, create and edit for the purpose to surve.

4. FORMS

It is a great tool for making Survey,quizzes,contact forms ,collecting feedbacks and much more. It is when tied up with spreadsheet allows to track results and provides and stores records to make easy documentation.

5. Google Docs

It is Word processing tool.it again has Multiple usages for access, create and edit to a document.the better feature is that smart formatting ,editing and styling tools are available.

One can also add links, images in the document to give the life to it. Direct web Search from the docs is the most favorite and useful characteristic of docs. It is also a powerful collaborating tool. It offers a more productive alternative of collaborating through e-mail. Apart from collaborating in writing multi-authored paper, academicians can use Google Docs in monitoring student research paper. In online collaboration, there are many tools available, for example Google Docs, Zoho, Window Live and so on. Google Docs is a powerful collaborating tool. Traditionally, collaboration can be done by attaching documents to e-mail and sending them to collaborators. By using Google Docs, one needs to have only one copy of document which is kept in the web. To collaborate, one needs to create a Google document and invite others as collaborators. The document owner needs allocate so tasks to collaborators that each of the collaborators knows which part they are supposed to contribute.

6. Google Drive

This amazing Google tool provides unlimited cloud storage to Store any type of file. It has an element to create and Save file automatically. It is accessible from any device to Share files and set access levels to secure the documents. It again allows viewing activity on all files in Drive. We can Search and Sort files as per ones need.

Drive cloud storage allows students to find the information they need, work with documents together, and organize folders and files. Due to the Documents, Tables, and Presentations services, students can complete general group tasks. The service also allows students to add web applications, extensions, and themes to their own Google account (Ercan: 2010; Sultan: 2010).

7. Drawing

This service allows quickly building various charts and diagrams. **Mindomo** is a network-based service for creating and storing concept maps. **PowToon** service is an online application for creating animated video presentations, which provides several options for animating text on slides: writing text by hand, the sequential appearance of letters, as well as simple options for animating text.

The service provides an extensive library of animated images: models in vector graphics and many infographic elements. The service allows exporting the created multimedia presentation to YouTube (Gleaves et al.: 2007; Li et al.: 2013).

8. Google calendar

It allows creating different calendars for groups and sharing them with all users. A wide range of shared access management tools helps to ensure security and privacy. Google Calendar is integrated into Gmail and is compatible with other popular calendar apps. The app allows transferring a specific calendar or event to another person to manage. Students can use the mobile app or sync with the built-in calendar on mobile devices.

9. Google site

It is a web- page creation tool which **allows** students to create and edit web pages, even if they are not familiar with HTML and web design. One can build sites from scratch or using ready-made templates, upload content such as photos and videos, and provide flexible access control at the level of not only the site but also individual pages. It is also used for Collaborative Student Research Projects.

10. Hangouts

Hangouts communication service, students and teachers have the opportunity to conduct online conversations in real-time from a computer or mobile device. It can have different usage as to conduct online parents meet or to have a interactive session with teachers of different campus. Team members can show their screens, watch, and work on everything together. Google Hangouts allows streaming live on Google+, YouTube, and the site (Lindh et al.: 2016; González-Martínez et al.: 2015).

9.The task of group project work of students includes a lot of information; it is the **Keep** service that helps students save thoughts, plans, notes, and reminders. (Ozcelik, Acarturk: 2011).

11. Google+

Google+ is a social service that provides an opportunity to unite participants of the educational process in one social network for online communication. Students can share their experience and knowledge in Google+, post updates on topics that are interesting to the team, and broaden new ideas (Wang, Wu: 2011).

12. Google Groups

Google Groups is a communication tool There are four Group types for you to choose from:

1. Email list
2. Web forum
3. Question and Answer (Q&A) forum
4. Collaborative inbox

13. Google Maps/Earth

Google Maps/Earth is a tool used for Interactive maps and satellite imagery. It is a web-based 3-Dvirtual globe that presents the worlds geographic information ranging from natural sciensec to social science,history,art and engineering in a geospatial context.

II. CONCLUSION

This digitalization has transformative impact on the society Today, educational institutions recognize cloud computing as useful for simplifying the management and administration of the educational process. By using various cloud computing models or software services we can have following benefits

The main advantages of G Suit for Education are the openness of services and the ability to effectively use them in professional activities

- Educational institutions can reduce costs and improve the efficiency of the learning process, as well as store, process, and analyze data.
- This is beneficial for universities, since getting constant access to various collaboration environments and important applications require minimal investment in hardware and licensed cloud software.
- Cloud technologies, in particular G Suit for Education, have an impact on group forms of distance learning, as they assist collaboration and enlarge communication opportunities.
- The use of cloud technologies encourages innovative solutions in the teaching methodology, the use of the project method, coaching, technology of the inverted class, and mixed learning.
- Educationally oriented cloud resources and services allow activating knowledge, help to search for and design new ideas, stimulate creative thinking, and promote the development of independent decision-making skills.
- It was found that the academic success of students who used the online collaborative tools with synchronous techniques in is better than students who collaborated face-to-face in the control group in a traditional class.
- The functionality of the cloud environment, which includes services for planning activities, establishing communication and collaboration, resources for non-formal education, tools for assessment and reflection, affects the effectiveness of the educational process, the development of professional and personal skills.

III. REFERENCES

[1] . Woodrich, M. and Fan, Y., 2017, Journal of Information Technology Education: Research, 16, 391-410. Retrieved from http://www.informingscience.org/Publications/3870

[2] . Izwan Nizal Mohd Shaharanee, Jastini Mohd Jamil, and Sarah Syamimi Mohamad Rodzi ,ISSN: 2180-1843 e-ISSN: 2289-8131

[3] . Lawrence J. Awuah (2015) Journal of Instructional Research ISSN: ISSN-2159-0281

[4] . Shampa Iftakhar, 2016Journal of Education and Social Sciences, Vol. 3, (Feb.) ISSN 2289-9855

[5] . Google. (2013). Retrieved from http://www.google.com/enterprise/ apps/education

[6] . Wikipedia.(2016). Google Classroom . Retrieved from https://en.wikipedia.org/wiki/Google_Classroom

[7] . Dr. Lokanath Mishra,Dr. Tushar Gupta and Dr. Abha Shree 2020,International Journal of Educational Research Open https://doi.org/10.1016/j.ijedro.2020.100012

[8] . Herrick, D. R. (2009). Apps for ACM SIGUCCS, 55–64.doi:10.1145/1629501.1629513

[9] . Barlow, K., & Lane, J,2007;doi:10.1145/1294046.1294049

[10] . S Widodo, 2017, IOP Conf. Series: Journal of Physics: Conf. Series 895 (2017) 012053 doi :10.1088/1742-6596/895/1/012053

[11] . H. Wu, R.D. Tennyson, T.-.L. Hsia, 2010,Comput. Educ. 55 (1) 155–164, doi: 10.1016/j.compedu.2009.12.012.

[12] . Fawzi Fayez Ishtaiwa and Ibtehal Mahmoud Aburezeq , Learning, Culture and Social Interaction 7 (2015) 85–96http://dx.doi.org/10.1016/j.lcsi.2015.07.0042210-6561/© 2015 Elsevier

[13] . Zhou, W., Simpson, E., & Domizi, D. P. ,2012, International Journal of Teaching and Learning in Higher Education, 24(3), 359–375.

[14] . Suwantarathip, O., & Wichadee, S. (2014). Turkish Online Journal of Educational Technology, 13(2), 148–156.

[15] . Oxnevad, S. ,2013,Retrieved from: http://www.tesl-ej.org/wordpress/issues/ volume14/ej55/ej55m1/

[16] . Xanthoula, A. (2015). Collaborative Virtual Classroom: A perspective view of a Collabortaive Virtual Classrooom via GoogleApp Engine, TEL-Crete Dept. App. Inf. & Multimedia ppt.

[17] . Lipponen, L., & Lallimo, J. 2004, British Journal of Educational Technology, 35(4), 433–442.

[18] . Curtis, D. D., & Lawson, M. J. (2001). Journal of Asynchronous Learning Networks, 5(1), 21–34.