Adoption of Google Applications for Education at the information of institute for postgraduate studies: A Review

Sarah Ahmed Noori[1], Prof. Dr. Rafah shihab Al-hamdani[2]

[1] University Of Waist, High Diploma Candidate of   University of Information Technology and Communications - Informatics Institute of Postgraduate studies.
[2]University of Information Technology and Communications - Informatics Institute of Postgraduate studies.

Abstract: Google Apps are productivity tools, freely available online for carrying out different tasks that are impossible for the non-free applications. They can be accessed from any internet-aided computer. The aim of this study is to promote the reality of free education in Iraq through the adoption of the free services from Google Inc. The student/researcher access information on the website of the Institute for postgraduate studies through these free e-learning tools to set up e-learning accounts, while the information and communication center of the university manage and create accounts for the professors and students on a larger scale (Google Classroom). The importance of these tools in the realization of free and available higher education to the non-profit universities in Iraq was revealed in this study, as they provide similar features as the subscription-based/paid applications.

Keywords— Google Classroom ; Google Apps ; E-learning

1. Introduction

Google Inc provides education packages freely online in the form of Education Apps. These Apps are a collection of online-based files and programs that can be freely accessed online without the need for any form of subscription. The users can access their files by just signing into their accounts. These storage space for the free tools is usually lower than those of the premium versions which require a form of subscription. However, the extra packages of the premium edition are still in the Education edition for higher education at no cost. With Google Apps, organizations can use customized domain names that reflect the branding of their companies. This allows colleges and universities to provide the Google Apps services in a familiar and comfortable single package [1].

Since the launch of the Gmail, it has attracted much interest among students of higher institutions who have found the Google Apps very interesting to use. The possibility of users accessing documents from any computer with internet connection, not minding the software version or compatibility satisfied their desire of always been connected and updated life style. Due to perceived security issues and data management, many people are against storing their data on public servers. Many organizations use their internal emails for administrative purposes while providing the students with the Gmail. Yet, many colleges or universities prefer the Google Apps for emails only, but increasingly for the complete suite of communication and productivity tools [1][2].

1.1 Google Apps for Education (GAFE)

These are a set of collaboration and communication tools, freely available for building teamwork and enhance learning. They save time and makes it easy to stay connected. Files can be easily created, edited, and shared in real time. All users are on the same page and stored automatically in the cloud [1][8]. The services offered include email, calendar, Drive, sites, and documents. These Apps are currently being used by over 30 million people globally. majority of the users are students in the colleges and universities, while others are in the business aspect [1]. The GAFE are laden with many features which include:

Customizable: The GAFE are easily made that it is possible to set up in a customized way with dozens of high-security settings and feature options. Account permissions can be set to meet the need of the institution such as switching off email for second graders and allowing same for the fifth grader[8].

Some of Free: They are provided freely for the universities and colleges.
  i.   the services include a continuous email and telephone support, as well as an online teacher training center.

ii. *Collaborative:* The GAFE are unique because they are fast and can collaborate easily. They offer a strong sharing control and real-time editing; they are compatible to the workings of the 21st century.

iii. *Without ads:* The student data in the GAFE are not for commercial purposes. Mobile device compatible: They can be used at any time from any mobile device that has an internet connection. It does not matter the existing platform in the institution (laptops, Android Os, or MacBook). They work with any form of device.

iv. *Secure:* The privacy of the data is the responsibility of the users. The schools and students manage their own data in the way they presume perfect for them. Google employed over 400 full-time technical engineers who work continuously on data protection.

1.2 The Apps in the GAFE

The GAFE is a set of free productivity tools which comprise of the following tools:
- ✓ Google Contacts
- ✓ Google Calendar
- ✓ Google Gmail
- ✓ Google Drive
- ✓ Google Slides
- ✓ Google Docs
- ✓ Google Sheets
- ✓ Google Forms
- ✓ Google Hangouts
- ✓ Google Sites
- ✓ Google Groups
- ✓ Google Vault

2. Google Classroom

The Google Classroom is to schools as an App in the GAFE. It allows teachers to assemble the students in one location and for easy assigning of works. Home and Google Drive assists teachers in the creation and collection of assignments. Google Classroom has time-saving features and helps teachers in the creation of a copy of the Google Document for each student [4]. It can also create folders for every assignment, and the student can keep track of what's due on the particular assignment page for necessary action [4][6].

Figure (2.1) Google Classroom

Teachers can easily monitor the students and provide direct real-time comments and marks from the App [4]. Google Classroom is a blended learning platform with regard to schools that aim to simplify the creation, distribution and grading assignments. Following its release to the public on the 12th of August 2014, Classroom has been introduced as a characteristic of GAFE. The aim is to introduce the paperless educational system and method. The Classroom API was announced by Google on June 29th, 2015, allowing developers and institution administrators to further the use of Google Classroom [4].

2.1 Attributes of Google Classroom:

The aim of the Google Classroom is to provide and promote academic activities without the need for papers. The creation and distribution of assignments are done through Google Drive, while communication is through Gmail services. Invitations can be sent to learners via the institution's database or a private code that can be added in the college-student interface. Google Classroom utilizes the information on the students' and educators' Google Calendar. For every class created with Google Classroom, there is an individual folder for the student to submit their works for evaluation. The teachers communicate with the class through Gmail, thereby allowing them to make announcements and ask questions to students in each class. Advertisements are not allowed on the Google Classroom student-teacher interface. Learners can directly be added by the teachers from the Google Application directory, or through a code which can be joined by the student for access to the class [4].

Different activities can be carried out using the Google Classroom. Some of these activities are:
i. Assignments and grading
ii. Communication and time management
iii. Archive course

2.2 The benefits of using Google Classroom

There are several benefits of using the Google Classroom. These benefits include the following:

i. Ease of accessibility and usage: The Google Classroom is an easy tool to be used because it is delivered from the Google Chrome browser, making it easy and accessible from all laptops, tablets, and mobile phones. Many learners can be easily added and documents can be created to manage tasks and assignments in an easy way using Apps such as post-YouTube, add links, or add files from Google Drive [2][5].

ii. Effective communication and sharing: Google Docs are the greatest feature of Google Classroom; they are saved and shared online with a limitless number of users. Learners can access announcements or assignments created through Google Docs via their own Google Drives. This means that emails are no longer needed to share information; just create the document and share it with the as many learners as needed [2][7]

iii. Another benefit of Google Classroom is the speeding up the process of assignments. With Google Classroom, assignments are already quicker and effective because a person can easily check on the people that have completed theirs or those still working on it for instant feedback [2].

iv. Effective feedback: With Google Classroom, people can give online support to learners in a proper way; making mentoring and feedback very effective [2].

v. It promotes paperless Classroom. The centralization of the e-Learning materials in a single cloud-based location gives the ability to go paperless and have less concern about printing or even losing the students work [2][8].

vi. It encourages communication as students can comment on particular places in a document and generate URLs for interesting comments or remarks for further online discussions.

vii. This platform is for everyone to participate, including the teachers. Teachers can join the Classroom as a learner, meaning that teachers can generate a Class for themselves and their co-workers, and use it for meetings and conferences for professional development [2][6].

2.3 Use and management of Google Classroom

The Google Apps for Education (GAFE) was designed in such a way that all the services in the package will be accessed from a single account. The owner of the single account is saddled with the responsibility of adding people to the account. To add a member (say a professor), the account manager will be required to create an account for the professor through access to the Control Panel and then, choose "Add and manage users" to add the person. Once added, the person can have access to the Google services from the same account as the manager. For the other people in the same organization to access the Google services, they must be individually added through the same process to the GAFE account. Having added them, they will have a personal user account for accessing Google services. It can give them access to the organization email address if Gmail is in service.

To add new users to the GAFE account, the account manager must first start by clicking the "Add user button". Having done this, the first name, last name, and primary email address of the user must be entered. The next is to set the initial password of the user (optional). The temporary password for the new user will be generated by the admin console using a combination of characters (symbols, upper and lower, case letters, and numbers). To set a different initial password, the Admin must confirm the password by clicking "set password" and entering the same password twice[10]. After confirming the password, the account will be created by clicking the "Create" button. The process of adding a new user to the GAFE account is shown in Figure 3.1.
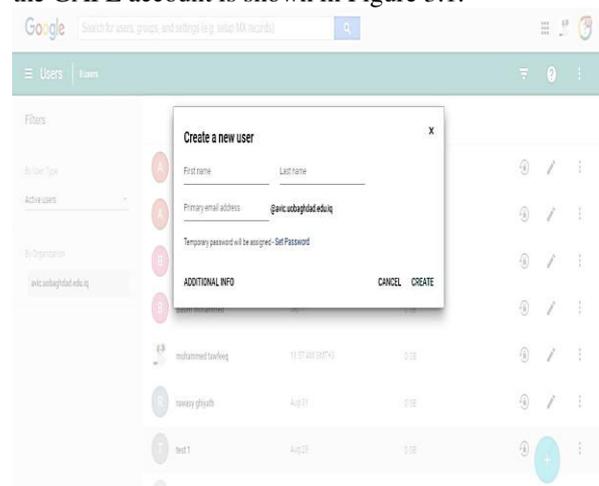

Figure 3.1: Adding a new user to the GAFE account

2.3.1 Signing In

To sign into the GAFE account, the person must be a registered user who has an account to access the GAFE services. Signing in requires the right combination of the username and password used

during the creating of the user account. The platform for signing into GAFE account is shown in Figure 3.2.

Figure 3.2: Signing In

2.3.2 Signing into GAFE as a teacher

Every classroom teacher has a unique class email and password provided by the school for signing into GAFE. The needed account information includes the unique email address and password provided by the school, which resembles myname@myuniversity.edu. To sign into GAFE, the teacher must go to the address classroom.google.com and click "Sign In". The interface for signing into GAFE is shown in Figure 3.3. Having clicked "Sign In", the teacher is required to enter the GAFE username and password provided by the administrator before proceeding to the next stage. The window for entering the required information is shown in Figure 3.4. The G-Suite for Education username appears like name@myschool.edu
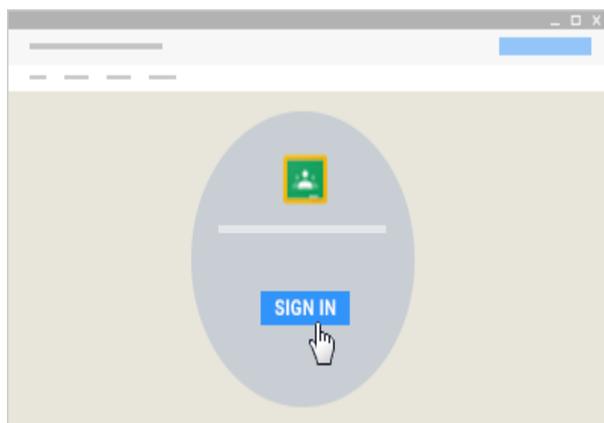
Figure 3.3: Signing into GAFE
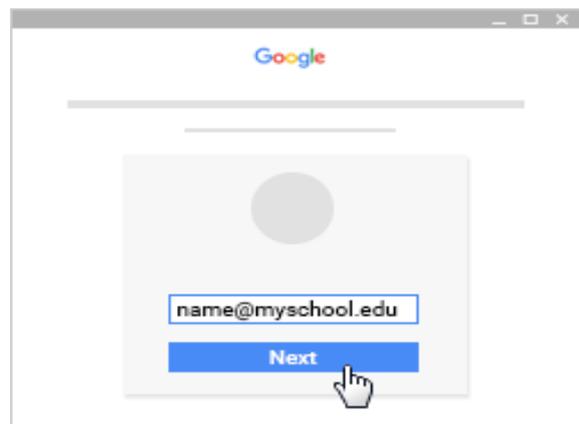
Figure 3.4: Entering GAFE username and password

After entering the username and password provided by the Admin, the user is required to click "Sign In". Having signed in, the user must read and accept the welcome message by clicking "Accept". This interface is shown in Figure 3.5. to sign in as a teacher the user is expected to click on the "Teacher button at the bottom right corner of the window as shown in Figure 3.6.
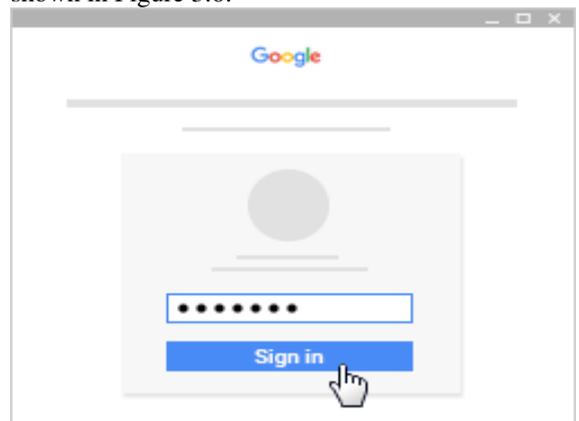

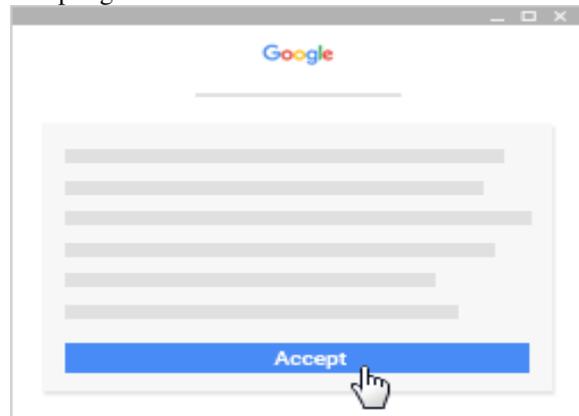Figure 3.5: Reading the welcome message and accepting the terms and conditions

Figure 3.6: Signing in as a teacher

2.3.3 Creating a Classroom

To create and manage a Classroom as a teacher, the teacher must first click "Add" in the interface shown in Figure 3.7 before creating a class. Having clicked "Create class", the teacher must enter the class name, texts such as the class time or grade level, and the subject (can be selected from a drop-down). After adding the information, the teacher will click "Create class".
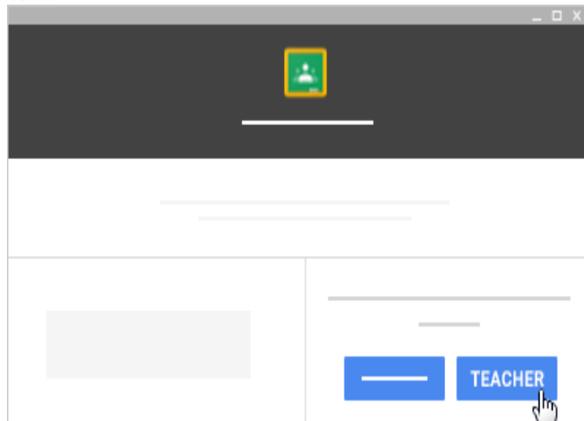

Figure 3.7: Creating a Classroom

2.3.4 Managing a classroom

The management of a Classroom involves the following:

Inviting students to a class After creating the class, the teacher must invite the students to the class by distributing the class codes to the students. To do this, the teacher will click on the class of interest, and at the top of the class, the teacher will click "Students" as shown in Figure 3.8. Having done this, the students will be invited to the class using the interface shown in Figure 3.9.
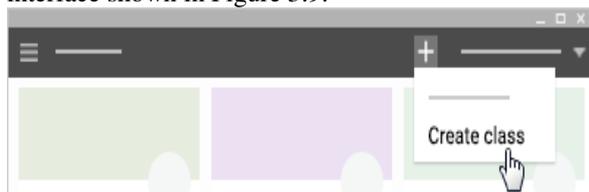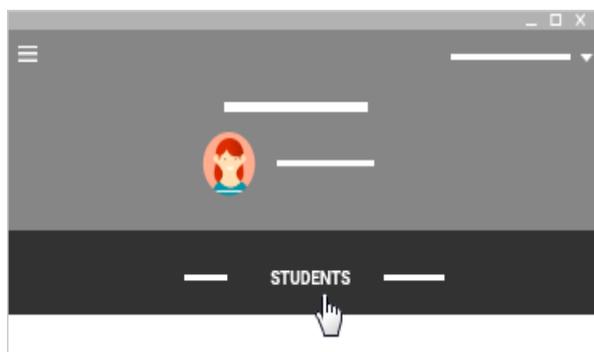

Figure 3.8: The "Students" button

Figure 3.9: Inviting the students

After inviting the students, the teacher must select the student he wants to invite to the class by checking the box next to the intended students, or selecting all the boxes if he intends to invite all the students. To see other contact lists, the teacher will click "My contacts" as shown in Figure 3.10, and to see all the student in the school domain, the teacher will click "Directory" as shown in Figure 3.11.
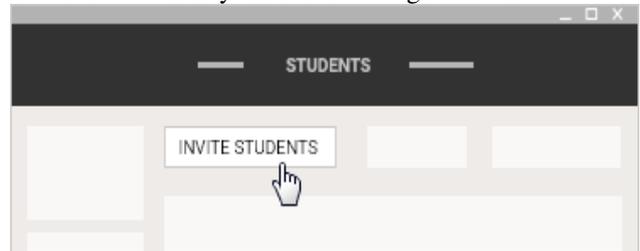
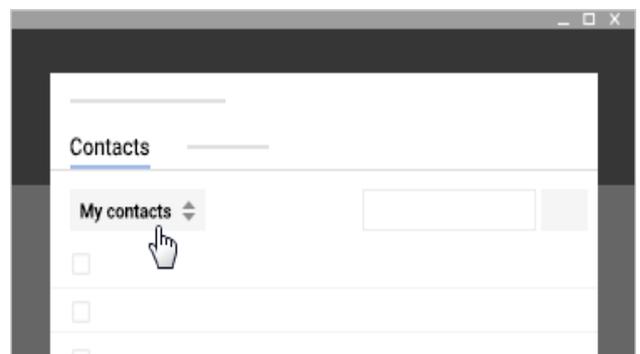

Figure 3.10: My contacts to see contacts list

Figure 3.11: Directory to see all students in the school domain

Assigning codes to the students to add themselves
The teacher can achieve this by clicking on the class of interest, and at the top of the class, click "Students". The class code will appear on the left side of the window as shown in Figure 3.12. The teacher can send the class code to the intended students through email or write the code on the class board for the students to copy and use in the future classes.
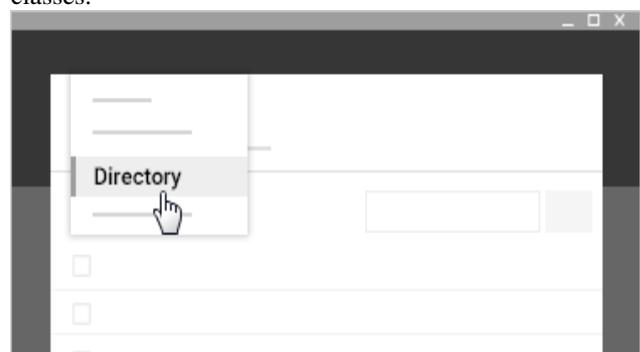

Figure 3.12: The class code

2.3.5 Signing into the Classroom as a student

To sign into the classroom as a student, the student must go to classroom.google.com and click the "Sign

In" button. After clicking the sign in button, the student will enter the GAFE username and password provided by the Admin. The student is also expected to read the welcome message and accept the terms and conditions by clicking the "Accept" button. After signing in, the student will click on "student" at the bottom right corner of the window as shown in Figure 3.13. At the top of the student window, the student will click "Add" and then, click "Join class". After clicking "Join class", the student is expected to provide the class code provided by the teacher to join the class.

Figure 3.13: The "Student" button

2.4 Testing Google Classroom at Avi-cenna e-Learning Centre

The initial processes in the GAFE testing at the Avi-cenna e-Learning Centre involve the creation of accounts for the professors at the Centre, setting up class names, and uploading educational materials. It also involved explaining the window interfaces to the students such as how to create an event, and how to create and join a classroom. The next stage is the addition of announcements, assignments, or questions through the + sign at the bottom right of the screen, as shown in Figures 3.14, 3.15, and 3.16.
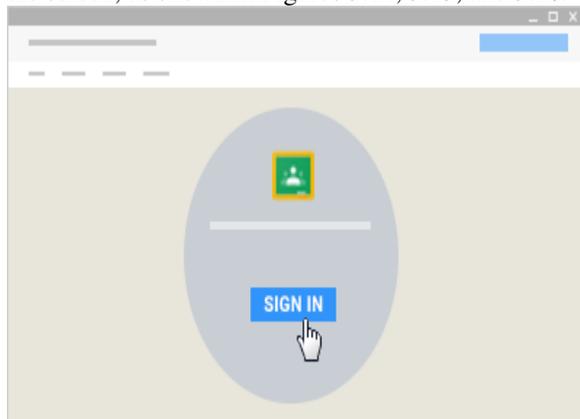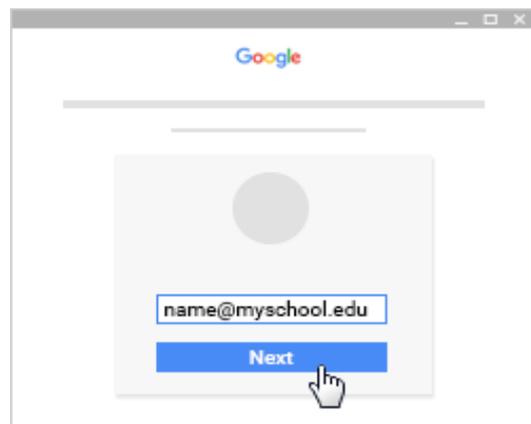

Figure 3.14: Adding announcements

Figure 3.15: Adding assignments

Figure 3.16: Adding questions

3. Conclusions

Google Apps for Education (GAFE) is a collection of communication and collaboration applications that allow students to work on projects and documents from any device. Once an institution has a registered current email address with GAFE, the teachers and students can access all the applications by just signing in. They can access an office suite of tools, comprising of Google Docs, Slides, Sheets and more, which offers the potential of working on any document from any device; as well as sharing and collaborating with others. The instructors and the students can have the flexibility of working from any computer or device with an active internet connection since all Google Apps are saved in the cloud. Students and teachers can save their work seamlessly and collaborate synchronously and asynchronously with each other.

4. Suggestions for future works

The following recommendations are needed to ensure a successful implementation of GAFE in Iraqi universities:
- ✓ The teaching staffs are urged to enhance their computing skills especially in the field, to utilize them in the educational process.

- ✓ Iraqi universities are encouraged to allow their staffs benefit from the new technologies and invest in education. They should be granted special funds to enhance their skills and motivated to access these privileges.
- ✓ The professors should be encouraged to publish their personal sites on the Internet, and provide the necessary facilities for it, or take the advantage of some of the services provided by companies such as Google.

5. References

[1] Teeter, R., & Barksdale, K. (2011). Google apps for dummies. John Wiley & Sons.;

[2] Martin, K. (2012). What Every Educator Should Know about Using Google. Shell Education.

[3] Rutledge, P. A., & Gunter, S. K. (2014). My Google Apps. Que Publishing.

[4] Crane, B. E. (2009). Using WEB 2.0 tools in the K-12 classroom. Neal-Schuman Publishers.;

[5] Brumbaugh, Kyle, Calhoon, Elizabeth, Musallam, Ramsey," Creating a Google Apps classroom: the educator's cookbook"(2014).

[6] Herrick, D. R. (2009). Google this!: using Google apps for collaboration and productivity. Proceedings of the 37th annual ACM SIGUCCS fall conference: communication and collaboration, ACM.

[7] Barlow, K. and J. Lane (2007). Like technology from an advanced alien culture: Google apps for education at ASU. Proceedings of the 35th annual ACM SIGUCCS fall conference, ACM.

[8] Barroso, L. A., et al. (2003). "Web search for a planet: The Google cluster architecture." IEEE micro **23**(2): 22-28.

[9] Hargis, J. and S. M. Wilcox (2008). "NOTE FOR EDITOR: Ubiquitous, Free, And Efficient Online Collaboration Tools For Teaching And Learning." Turkish Online Journal of Distance Education **9**(4).

[10] https://www.google.com/edu/case-studies/boise state-university,(15/10/2016)