

# Google Plus Integration into Higher Education

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## Abstract

Google Plus (GP) is a Web 2.0 application that allows users to collaborate and share asynchronous and synchronous multimedia content. Its use by educators spans from simple unidirectional staging of information to full duplex communication. Through creative use, it can serve as a valuable addition to mobile e-Learning and on-ground applications. This paper introduces GP and three key services, Hangouts, Circles, and Google Drive. Though these and other services are still evolving, their current state is capable of enhancing instructor-student interaction.

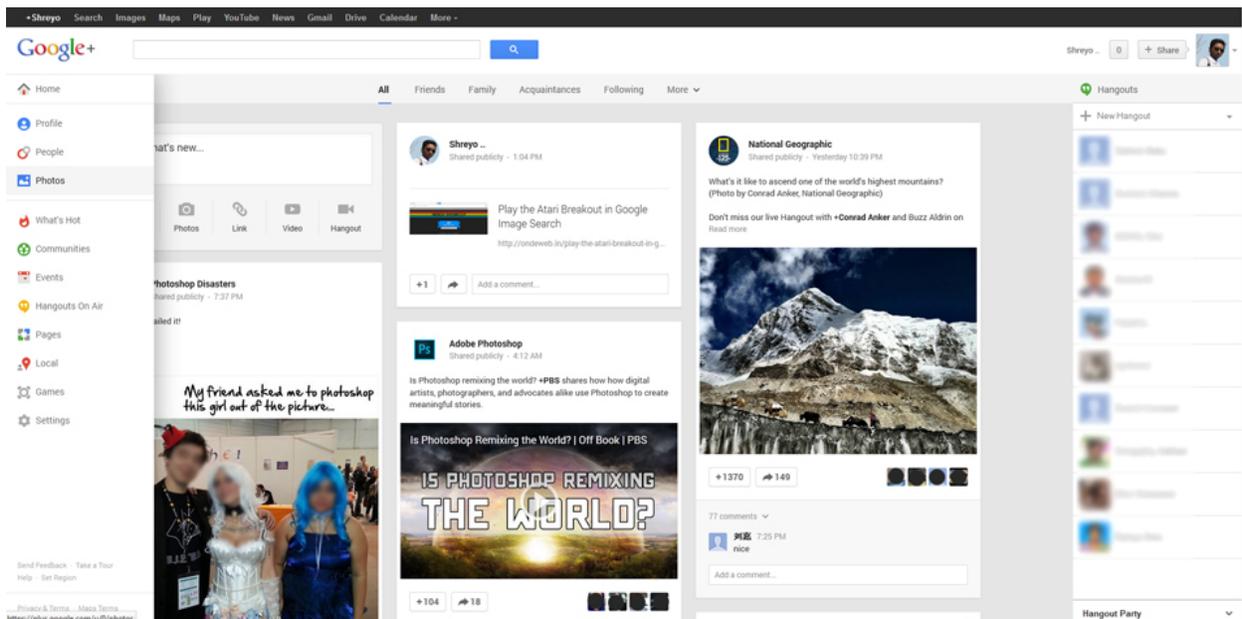
Key Words: Digital Learning, Google +, Google Plus, Online Learning

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## Google Plus Introduction

Google Plus (GP) is a Web 2.0 application that allows users to collaborate and share asynchronous and synchronous multimedia content. Due to its similarities to Facebook, it is frequently seen as a direct competitor. Unlike Facebook, however, GP represents one service within Google's diverse online digital suite. GP is intended to represent one facet of a multi-layered user relationship with the application. The self-stated goal of Google is to integrate all their online services together with GP as its social center.

The cloud-based application is centered on three main content columns. These columns represent the user interface (UI) that is presented. Below is an image of the typical UI:



The first vertical column – actually a dropdown from the “Home” icon – depicts the current user GP view. Options let you navigate to Profile, People, Photos, and other services. The middle columns are the “Stream” or area where others who are socially networked to the user can interact. That interaction is partially governed by Circles which provide the ability to regulate the degree of interactivity with others on the application. This area also allows GP users to contribute, consume, and even monitor mass broadcast postings. Media diverse, it can incorporate audio, video, and other push/pull communications. The last vertical column contains the current friends the user has in his or her Circles. It also reveals their current status of online, offline, or idle. Manipulation of this last column can engage online Hangouts (interactive video conferencing) and audio or text chats.

GP is available in both static and mobile configurations which facilitates its use in education. Whether the student is an Android or iPhone user, much of the functionality of GP is retained, including some enhanced mobile features. These features generally leverage services like global positioning and social gaming. As an educational tool, GP has unique opportunities that conventional tools do not easily equal. This paper seeks to highlight some of those opportunities and also the commensurate downsides.

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## Google Plus Implementations in Education

Ideas on how to implement GP into pedagogical models tend to focus on its ability to socially interconnect students (Littau, 2011). In this regard, GP is literally a universe of different functions which, if detailed thoroughly, exhaust available space and attention span. A few examples – Hangouts, Circles, and Google Drive – are detailed below.

### *Hangouts*

Hangouts are the video conferencing tool that GP utilizes to interconnect users. Whether on a mobile or static device, the ability to collaborate synchronously is a valuable educational tool. Educational use spans from hosting simple office hours to creating synchronous/asynchronous content that is made available over the web through Google Hangouts On Air (Ionescu, 2012). In all cases, audio and video content is encrypted, and only participants who are incorporated into the relevant Circles can join. Within the session, the participants can interact with each other and openly share content from their devices. This makes available a world of sharing possibilities anent term papers, presentations, and electronic whiteboards. For group projects, a periodic meeting can be scheduled with the instructor to video chat with the team, discuss progress made, and review documentation thus far. Online presentations to other students can be arranged for a consensus grade or simply for practice. Within the Hangout, full interactivity is possible with Google Drive (cloud-based storage) and other Google services. The creative use of Hangouts is limited only by the imagination of the participants and the instructor who designs the course.

Limitations in Hangouts include a maximum of 10 participants that can interact concurrently. As many as 15 participants can be activated if the user has GP Premium features enabled (Google, 2012). What this means is the instructor may have to parse classes into smaller subgroups to accommodate sessions. It should be noted that with Google Hangouts On Air, the session creator can make it available asynchronously to a much wider audience through YouTube. After the “live” event, students can watch the session at a time of their choosing later. Other potential problems are that participants must be aware of what they reveal during sessions and fully control their own privacy. If they share an inappropriate window or discuss their passwords, everyone will know and potentially hold the instructor or institution responsible. Education regarding online policy standards is obviously mandatory. While this can be viewed as a negative, it can inversely represent an opportunity to teach secure respectful digital interaction.

### *Circles*

Circles are a powerful GP feature that allow greater instructor granularity regarding who can see what within the social media architecture. They are most easily managed through the first vertical column dropdown under the “Home” icon and selecting “People.” Using Circles is relatively intuitive through a drag and drop UI. Circles are utilized to define the user’s social order for contact and interaction. In a class, an instructor will typically create a Circle for the course and place everyone into it using their GP email accounts. This Circle then becomes the focus of all communications whether pulled or pushed in class. When Hangouts are engaged, the

course's Circle receives the invitation to join. When communication needs to be broadcast, the course Circle is the receiver. As individuals adopt this architecture, it soon becomes easy to share video, audio, text, and multimedia content. Adjusting Circles is likewise done through a drag and drop methodology that is relatively intuitive.

The downside of Circles is that if the user employs too many, they can get exponentially complex. The use of multiple circles for multiple groups within a class can quickly become unwieldy. Users failing to manage this complexity frequently find themselves unsure of the proper sources and destinations for information. As notifications and invitations come in from multiple Circles, it can quickly become difficult to deduce what is happening. Education on Circle management can alleviate this, but users who exhibit a tendency towards digital hoarding can experience great confusion. To be effective, Circles need to be continually managed (Levy, 2011).

### ***Google Drive***

The last example provided is the ability to fully leverage Google Drive for classroom use. Google Drive (GD) integrates fully with GP and creates a shared platform for instructors and students to share all course content. Conveniently, all new users receive 5 gigabytes of free storage with more available at an additional price. Instructors, through GD, can push content to all the students in their Circles and ensure it is sent encrypted exclusively to them. This flexibility can be leveraged to manage data distribution discriminately across disparate classes.

GD also has applications that attempt to replace Microsoft Word, PowerPoint, and Excel. Respectively, Google Docs, Presentations, and Spreadsheets, act as substitutes with varying degrees of success. Fortunately, if users wish to continue using the Microsoft products, GD fully supports uploading their completed content to make it shareable in class. GD at its simplest is Google's answer to a huge cloud storage solution. At its most sophisticated, it is the repository from which documents, pictures, videos, and audio files can be distributed throughout the Google "digisphere" (Google, 2012). This architecture allows users to incorporate the automatic sync function to make changes to a course document on GD and propagate it seamlessly to all their devices and related users. When users are provided a link to the shared document, they can make changes in real time, which greatly facilitates collaboration. This reduces or eliminates the need to constantly distribute newly-changed documents or spreadsheets.

The downsides of GD are chiefly twofold. The first one was mentioned previously and is related to the need to manually upload any changed Microsoft documents. Any externally-generated content must be uploaded if it is created outside of GD. If changes are made to the document within GD, downloading back to its Microsoft source application can be inconsistently successful. The second downside is that to fully utilize its Sync function, configurations must be strategically set. If the student incorrectly configures the Sync function on a mobile device, they can easily exceed their data usage limits (Meyers, 2011). Although this is not a problem universally shared by all, the real possibility for large overages does exist.

### **Google Plus and Pedagogical Content Knowledge**

GP supports many of the pedagogical goals of modern education. The ability to collaborate, exchange ideas freely, review research, and present research are all supported. The genuine inquisitiveness that students bring to a new technology can help break down resistance

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to previous models of learning. The combinations of asynchronous and synchronous content support the needed flexibility of modern cognitive models.

However, the focus of the pedagogical theory it best supports is found in Dr. John Seely Brown's theory of Cognitive Apprenticeship (Kavalewitz, 2008). In his research, he proposes that students learn course topics much like an apprentice learns a craft. A combination of formal schooling and apprenticeship is required. Formal schooling, the focus of traditional education, is the presentation of what is known about the topic and what the student should know. Apprenticeship, in contrast, is the communal and hands-on knowledge that the student encounters in digital products like GP. This latter learning displays greater cognitive adhesion and effectiveness. Since GP is in concert with Brown's theory, the educational experience is greatly enhanced and students experience the apprenticeship effect more fully.

### **Conclusion**

GP presents educators with opportunities previously unrealized. Through its collaborative functions, students can be brought together in interesting and wholly unpredictable ways. This unpredictability is at the heart of its utility. Through these collisions of ideas and thoughts, multiple views can be developed in regards to what constitutes topical truth. GP facilitates these collisions across wider student populations and environments.

Hangouts, Circles, and GD represent the building blocks that introduce students to these capabilities of mobile education and, as such, can usher in new ways of thinking. While still evolving and representing unperfected tools, the willingness of Google to continually fund their improvement highlights their potential. This potential is what modern educators should seize in order to maximize the opportunities their students will experience in the classroom and outside of it. Through the employment of creative learning platforms such as GP, education can continue to evolve to meet the prospective pedagogical and andragogical challenges.

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