Using Google Apps in Professional Learning Communities

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Abstract: Being an educator presents challenges, especially when communication is a barrier. Google Apps provide collaboration tools which allow teachers to create, share, collaborate and publish work within their Professional Learning Community (PLC). All documents and revisions saved on Google Apps are easily accessible for each collaborator, eliminating cumbersome email trails between collaborators. This project sought to implement an instructional design module that can serve as an orientation for new users of Google Apps, so that teachers will be able to gain an understanding of the tools and adopt them into their PLC. Voicethread presentations were embedded into the web-based modules so users would be able to view step-by-step procedures as a tutorial for Google Apps. The project was delivered in a hybrid approach, both synchronous and asynchronous, since teachers' technology abilities vary. Ten public school teachers participated in and tested the web-based module and its effectiveness was evaluated in a survey completed by participants after they finished the module. Post survey results indicated positive reactions to using Google Apps as a collaboration tool in their PLC, although they have expressed concern that without total "buy in" amongst their colleagues, the collaboration tool would not be effective.

Project Description

Communication may be a barrier amongst teachers in their Professional Learning Community (PLC). Teachers often struggle with time constraints within the contractual day. Meetings may often cut short due to time and conversations leading to grade level agreements may need to be postponed to the next meeting. At many schools, teachers are required to come together as a staff once a week and meet amongst colleagues. Many teachers, who are non-digital natives, prefer to meet face-to-face and have the personal contact with their colleagues. They may feel uncomfortable with technology and view technology like learning a new language.

For years, teachers have communicated through email and files were saved on their computer. They may share their files with their colleagues in their PLC by sending attachments through email. A problem with this method of sharing files is that when they send a file through email, copies of the file are created   If a teacher sends a file to three other teachers, the file will be in four different places. Then revisions of the copy are

sent back within the PLC which creates additional versions. Teachers may lose track of the revisions and often get frustrated looking for the recent copy. Google Apps provide a much more effecient way of filing messages.

Instead of saving the files on the computer, a possibility is to save it on the Internet using "cloud computing." Sharing and collaborating is much easier on the Internet. Google Apps provide collaboration tools to enhance communication for teachers by sharing documents at any time and from any location. The Professional Learning Community's dialogue could be enhanced with shared calendars, email and video chat.

Google Apps is a free web-based program and file storage without requiring users to install software or take up hard-drive space. It works on any computer, including Macs, cell phones, iPads and netbooks. Users simply log in to Google to access their files or tools.

Google released its productivity apps (Google Docs: text files, spreadsheets and presentations) in 2006 with its focus on real-time collaboration.   Google enables up to 50 people at different locations to collaborate simultaneously over the same document and from any computer with Internet access.   Teams, partners and peers could all have their "hands" in editing and viewing the same online copy of the document, spreadsheet or presentation. All revisions are saved in real-time in Google and are retrievable. Files stored in Google Apps are secure as everything is saved within a registered domain and are only retrievable by people who have a log in to that file. Docs start off with a visibility option set as Private by default, which means that only the people you explicitly invited are able to view or edit the document.

Google Docs has the same basic functions as word-processing. Each file has a creator/owner who determines who has access to the files as a viewer (who only has read-only privileges) or editor (who can change the file). Collaboration and document managing becomes easier since Google saves and stores all files centrally. Google is able to distribute files to multiple users and store revisions. Revision history allows collaborators to compare different versions of the file. Collaborators are able to retrieve old versions of documents and view revisions that were changed through collaboration. Collaborators no longer have to search through the cumbersome files in emails to locate different versions. Google saves all revisions in one central area.

Teachers are required to collaborate within their PLC. Collaboration can be difficult, especially if computing confounds the issue. Therefore, a significant problem for teachers is that they often must rely on computers for collaboration but lack the specific training to be able to do so successfully.

Review of the Literature

A Professional Learning Community (PLC) is a "collection" of individuals who come together by will, shared ideas and ideals. The commitment or pact between the individuals is tight enough to transform them from a collection of 'I's' to a collective 'we' (Wald, 2000). The core mission of a professional learning community is not only to ensure that the students are taught but also to ensure that they have learned. The focus of conversation shifts from teaching to student learning. Conversations within the professional learning community move beyond "What are we expected to teach?" to "How do we know when each student has learned?" Educators who are building a PLC recognize that they must work together in order to achieve the purpose of learning for all (DuFour, 2004).

Collaborative conversations in a PLC occur during the workday and throughout the year. Each member is now being called on to share topics such as goals, pacing, strategies, concerns and results which were traditionally left private. Conversations are structured to improve classroom practices.

"Because of the current economic crisis, academic institutions need to find ways to acquire and manage computing resources in a cost-effective manner" (Han, 2010, p. 87). By using cloud computing, customers do not own network resources such as hardware. Users do not have to subscribe to network resources because resources are delivered over the web. Cloud computing users do not have to worry about the maintanence and up front costs needed to run the software
.
"Cloud computing offers many advantages, but also involves security risks" (Anthes, 2010, p. 16). Cloud computing can also be referred to as a virtual private storage service that aims to provide security of a private cloud. Data in a private cloud remains encrypted, therefore data is protected by the cloud provider. Complacency is one of the security risks. Users may think that they don't have to worry about security risks because they are in good "hands", but it depends on the editors of the files or members within the file sharing group. Files are secured within the cloud provider, but the members within the group could breach security by sharing the files with others that are not in the group.

Purpose

As noted above, teachers lack training for how to successfully use technology to collaborate. Therefore, the purpose of this Instructional Design project was to develop and evaluate a web-based training module that instructs faculty on how to use Google Apps (Docs) to enhance grade level collaboration and consistency amongst grade level teams for teachers at an elementary school on the island of Hawai`i. The goal of this project was to educate teachers of the usefulness of Google Apps by providing them with a better understanding of the collaboration tool. The desired outcome was that with the

gain of understanding of the collaboration tool, teachers will be acclimated to the tool and adopt it into their Professional Learning Community.

Methodology

The fifth-grade teachers at an elementary school on the island of Hawai`i have used Google Apps as a collaboration tool for 8 months and each member has voiced its success with other faculty members. Interest in the collaboration tool spread throughout campus. Although, interest was also linked to concerns about learning another "new tool."

In order to teach other teachers about the use of Google Apps in their Professional Learning Community (PLC), I have decided to create a web-based module that was geared towards non-digital natives and new users to Google Apps. The lessons provided users with the understanding of how to create, share, collaborate and publish documents. Voicethread presentations provided step-by-step tutorials to guide new users in the process of creating and developing documents.

The project was presented in a hybrid classroom setting with both synchronous (face-to-face) and asynchronous web-based instruction. Since the project was geared to non-digital natives, teachers with 0 - 10+ years of teaching, questions were anticipated. Extra support on Internet browsing and computer usage was given to guide subjects through the module.

A pre- and post- instructional survey was posed to the participants to gauge the effectiveness of the module. Survey questions asked users about their prior knowledge of Google Apps (Docs), if they believed that the module educated them about using Google Apps (Docs), and if they could benefit from using Google Apps (Docs) in their PLC. Responses from the surveys sought to find out if the module was effective in its delivery, participant's knowledge of Google Apps (Docs), participant's overall experience and any additional feedback that they may have had.

An introduction video on Google Apps was embedded into the website to brief the users about the importance and usefulness of the tool. Three training modules were included into this project. The first module focused on "Creating a Google Account." This opening module provided the users the necessary steps to create a Google account in order to proceed in the other modules. Participants were able to pause the Voicethread tutorial and open another tab in the web-browser. They were able to navigate through the tutorial and create their Google account simultaneously. Pausing the Voicethread tutorial allowed each participant to navigate through the website at their own pace.

The second module focused on "Creating a Word Document." Voicethread tutorials featured screenshots to provide additional assistance to visual learners. This module focused on creating a new document, the features or tools included in Google Docs and

renaming the title of the document. Creating a word document on Google Docs is similar to using word processing. If teachers were familiar with word processing, they would more than likely be comfortable with using Google Docs.

The last module focused on "Sharing and Collaborating." This module focused on the participants sharing a document with the other participants in this study. Participants would be able to practice online collaboration with the other participants while in the same room. They would be able to voice their "ahas" and concerns about using Google Docs amongst the group of participants.

Results

Quantitative and qualitative surveys and interviews provided data regarding attitudes towards the modules. Embedded into the web-based module was a Likert scale pre and post-instructional survey. Data were collected from both the pre and post-instructional survey.   Surveys evaluated the effectiveness of the web-based module and if teachers viewed Google Docs as a possible collaboration tool.

Engagement

Thirteen teachers initially participated, but only ten teachers completed the post-instructional survey. Technical difficulties with the Google web-browser made teachers frustrated. The three teachers who were not able to complete the survey had difficulty verifying their Google account because Google sent their verification code to their cell phone or email address. These teachers did not have their personal computer and cell phone with them during the training. All teachers were using school issued, student laptops.

Participant feedback was included into the post-instructional survey to collect data to evaluate the web-based module and ways teachers could use Google Docs in their PLC. Based upon the results of post-instructional surveys, teachers at an elementary school on the island of Hawai`i reported that they felt the instructional design modules assisted them to learn the skills necessary to create a Google account, create a new document and share a document. 80% of the responents indicated that the content of the module was new to them and 90% indicated that the navigation of the module was easy to follow. 90% of the respondents indicated that Google Docs could enhance collaboration in their PLC.

Implications or Discussion

Prior to the project, fifth grade teachers at an elementary school on the island of Hawai`i were able to use Google Apps to collaborate. During the week of the project, the elementary school bought a new web-server and reprogrammed the Internet server. Teachers were unable to connect to Google Apps because the new server's firewall blocked the site.

While teachers were learning from the web-based module, frustration escalated as they kept receiving loading errors in the Google web-browser.

Responses included:

- The only problems I found were technical glitches - not being able to navigate all the places I wanted or needed to go... Without Barbra, I wouldn't have been able to complete the tutorial since my computer couldn't even open Google for some unknown reason. I'm anxious to get my grade level started on this form of communication. I'll also have to collect the e-mail addresses of the people I want to collaborate with.
- I could see myself using this as a communication tool if colleagues would like to try it out. It is definitely user friendly once you take the time to experience it. Did not like the lapse in service. Once I learned how to use it I wanted to get down to business and the lapse in service was not something I wanted to deal with at that time.
- The actual creation of a doc was very simple, although it kept giving me errors, likely because our Kahakai server is blocking Google. And then it would allow me to continue typing my message. So if Kahakai decides to do it, then we would have to find out if it can be unblocked on our server.

In order for a faculty to adopt online collaboration, all glitches need to be solved. After teaching the module to the staff, I consulted the tech coordinators at school. We addressed all the possibilities for error. A simple solution of rebooting the server solved the problem of Google Docs being blocked. Although, the damage may have already been done. Teachers who went through the process did not experience the full capabilities of using Google Apps as an online collaboration tool in their Professional Learning Community.

Conclusion

This study concludes that Google Apps could be used to enhance collaboration in a Professional Learning Community (PLC). Changing the mindset of teachers will always be a challenge, especially when technology presents itself with glitches. I think if the participants had a exceptional experience, there will be greater "buy in" because these participants will be spreading the word to their colleagues.

Despite all the challenges, 90% of the participants have indicated their willingness to implement Google Apps in their PLC. Participants have gained knowledge about the tool by learning how to create a Google account, a new document and sharing a document. The hybrid classroom setting has allowed personal interaction which the participants are most comfortable with. They were able to ask questions as they were going through the module. Follow up lessons to support teachers will be needed to ensure that the teachers receive the necessary skills to use the tool with confidence.

Participants in this study witnessed how Google Apps have enhanced collaboration for 5th grade teachers and have shown interest in witnessing the tool in action. By having the participants view the tool in action, they will notice that Google was not blocked by firewall and the technological glitches have been solved. I believe that the few participants can make a difference in the way their PLC works. If the participants implement it with a few teachers within their PLC, the "buy in" would increase as interest in the tool will increase.

Future use of Google Apps as a collaboration tool in a Professional Learning Community may now be more likely as a result of this instructional design module. Educators who are building a PLC recognize that they must work together in order to achieve the purpose of learning for all (DuFour, 2004). Google Apps may possibly be the solution to bring teachers together to achieve the goals to enhanced collaboration.

References

Allen, A. (2008). Unlocking the power of teams. *eWeek*, 6, 20-22. Retrieved from:
http://web.ebscohost.com.eres.library.manoa.hawaii.edu/ehost/pdfviewer/pdfviewer
?vid=29&hid=9&sid=bb5a3ec7-c52e-4ea3-ad2b-7c940f5901f7%40sessionmgr12

Anthes, G. (2010). Security in the cloud. *Communications of the ACM*, 53(11), 16-18.
Doi: 10.1145/1839676.1839683

Havnes, A. (2009). Talk, planning and decision-making in interdisciplinary teacher
teams: a case study. *Teachers & Teaching*, 15, 155-176.
Doi: 10.1080/13540600802661360

Hastings, R. (2009). Collaboration 2.0. *Library Technology Reports*, 45(4), 5-6.

Han, Y. (2010). On the clouds: a new way of computing. *Information Technology &
Libraries.* 29(2), 87-92.

Lee, M., & Kim, D. (2005). The effects of the collaborative representation supporting
tool on problem-solving processes and outcomes in web-based collaborative
problem-based learning (PBL) environments. *Journal of Interactive Learning
Research,* 16(3), 273-293.

Ryan, M. (2011). Cloud computing privacy concerns on our doorstep. *Communications
of the ACM*, 54(1), 36-38. Doi: 10.1145/1866739.1866751

Stern, Z. (2010). Work smart with online collaboration tools. *PC World*, 28, 29-30.
Retrieved from:
http://web.ebscohost.com.eres.library.manoa.hawaii.edu/ehost/pdfviewer/pdfviewer
?vid=30&hid=9&sid=bb5a3ec7-c52e-4ea3-ad2b-7c940f5901f7%40sessionmgr12

Wald, P., Castleberry, M. (2000). Educators as learners: creating a professional learning
community in your school. *Association for Supervision & Curriculum
Development*. Retrieved from:
http://site.ebrary.com.eres.library.manoa.hawaii.edu/lib/uhmanoa/docDetail.action?
docID=10115186