Using Google Docs to Enhance Group Work

Group work can be a valuable learning activity for students in any course. Implementing group work in online courses, however, can be challenging for instructors and students.

At Davidson County Community College (DCCC), several lower-level math courses are either lab-based or they integrate labs and other activities over the course of the semester. Often times I have students work in groups on these labs and activities to enhance their learning. My colleague and I recently redesigned a lower-level math course so that it could be offered online. Similar to the face-to-face course sections, the online course also incorporates student group work and labs.

Students take online courses for various reasons, such as:

- Non-traditional work schedules and busy lives that require more flexibility for coursework completion,
- Lack of transportation to campus,
- More flexibility in the pace of learning in a course, and
- Freedom and comfort of completing coursework at any geographic location.

Several of these issues make group work very difficult for students who take online courses, which led my colleague and me to search for a workable solution. My colleague and I needed to find an online application that allows instructors to coordinate and facilitate students' activities, is easy for students to communicate with their peers, and has asynchronous collaboration capabilities (real-time feedback). The application that my colleague and I selected to use for online lab group work is Google Docs.

Searching for Options

Before selecting Google Docs as the online collaboration application, my colleague and I considered several other options. We knew asking students to communicate via phone or email for an assignment would not be very practical and would likely lead to a great deal of frustration for students. High levels of anxiety already exist for many students who take math courses. Due to students' anxieties, my colleague and I wanted to select a collaborative online application that reduced all barriers to group work communications and that lessened students' frustrations. Many online applications and channels do not have real-time updates, thus making students share and re-share work with their peers through email or discussion boards.

My colleague and I thought about using discussion forums on DCCC's learning management system for students to do online group work, but this format seemed too limiting in that the communication is very linear and static. We needed a collaborative online application that allowed students to move back and forth between problems, make connections between problems, and pose dynamic questions to each other, all while still having asynchronous communication abilities.

Google Docs

When my colleague and I discovered Google Docs, we were happily surprised by all of its features. First, it is easy to use. For example, it has many of the same shortcuts as Microsoft Word. My colleague and I can copy and paste our existing labs into Google Docs with ease because the document formatting is the same as in Microsoft Word.

Benefits for Students

Multiple users can have access to a Google document and edit it simultaneously. This means that students have the freedom to work synchronously as they would be able to in a face-to-face course. When a group of students work on a Google document together, they can also communicate with each other in real-time in the document's chat box.

Google Docs also tracks changes in the document so deleted work is recoverable in almost all cases. Students never need to save their work in the document because Google Docs auto-saves after anything is typed. Additionally, students can open these documents and work on them from any internet-connected device.

One of the greatest benefits for students using Google Docs is the ability to facilitate asynchronous communication. Since the document is dynamic, changes are made instantly in the document. Google Docs allows students to see each other's work as it is being entered in the document, giving students the abilities to offer comments and suggestions to each other while work is in progress and not just when it is complete.

In Google Docs, students can highlight anything in a document and leave a comment about the selected text. These comments are posted on the side of the document and don't interfere with the work itself. Students can reply to each other via the comments, which helps keep the content of the document less cluttered. With the commenting tool, students can pose questions to each other, offer suggestions, identify potential mistakes, and ask for help. A great aspect of this feature is that the comments are emailed to all users with whom the document is shared.

The commenting tool can be used to signal to other group members that a student needs help. The comments are also emailed to the instructor and includes a link to the Google document. The instructor can quickly scan the comment to determine if the group or a single student needs additional help. One click on a link takes the instructor to the Google document to review the students' work, enabling instructors to better contextualize the issues that students are encountering and provide targeted feedback.

Setting Up Google Docs

At DCCC all students and college employees have Google accounts because the college uses Gmail as its email server. This gives everyone at DCCC access to the entire suite of Google apps, including Google Drive and Google Docs. If your institution does not use Gmail, you can ask your students to create personal Gmail accounts, although many students already have Gmail accounts.

Before using Google Docs to facilitate student group work, instructors need to set up student groups in Google Drive. Google Drive is a cloud-based storage service that can be used to create and store Google Docs, Sheets, and other types of files including PDF, JPEG, Word documents, and Excel spreadsheets. As previously mentioned, transferring existing labs from Microsoft Word or creating new documents in Google Docs is simple for instructors. Once the group work documents are transferred into Google Docs, I generally organize students into groups of three. I create new folders in Google Drive for each student group and name them accordingly. I then "share" the folders with each group member, which sends each student in the groups an invitational email. Once the student group folders are set, it is easy for instructors and students to share documents within their student group. Sharing the group folder gives students in the group access to all documents created or transferred into the folder. Instructors can easily share all of the labs with a group by adding the documents to the shared Google folder. Instructors who do not have a college-supported Gmail can still set up student groups in Google Drive after acquiring students' personal Gmail account addresses.

To support students who are new to using Google apps, I post how-to videos to help them navigate Google Docs, pointing out the most useful and important features. The videos are especially helpful for students enrolled in online courses who do not have the benefit of an in-class tutorial.

Conclusion

Google Docs is a user-friendly application that makes it easy for students to participate in online group work. The online program can foster student collaboration in all academic subjects and courses. It is very important to provide students with tools like Google Docs to enhance and support students' learning in physical and online class settings.

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