Deaf STEM Community Alliance

Deaf and Hard of Hearing Virtual Academic Community Procedures Manual

Center on Access Technology
National Technical Institute for the Deaf
Rochester Institute of Technology
Rochester, NY

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About this Manual

This is the project manual for the Deaf and Hard of Hearing Virtual Academic Community, a project of the Deaf STEM Community Alliance, funded by the National Science Foundation grant #: HRD-1127955. This manual describes the procedures used to establish and maintain the various components of the Community. Due to the evolving nature of online platforms and the continued need for maintenance, this manual is, and will continue to be for the duration of this project, a living document, and is subject to change. Comments, questions, and other feedback are welcomed at admin@dhhvac.org.

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Preface

Project Summary

The Deaf and Hard of Hearing Virtual Academic Community (DHHVAC) is an online community that seeks to support deaf and hard of hearing students in disciplines related to science, technology, engineering, and mathematics. Developed by the Deaf STEM Community Alliance, the community supports students at three postsecondary institutions in the northeast. One technical, private Master's degree level institution (Rochester Institute of Technology), one Ivy League university (Cornell University), and one community college (Camden County College). This project is supported by grants from the National Science Foundation, HRD-1127955, 1240187, and 1355574.

The DHHVAC supports its student participants by coordinating remote tutoring and remote mentoring, as well as providing access to a community of practice. Participants include students, faculty, professionals, and DHHVAC staff.

Project Background

The DHHVAC grew out of two previous grant-funded projects.

Summit to Create a Cyber-Community to Advance Deaf and Hard of Hearing Individuals in STEM

Funded by NSF grant number OCI-0749253, the summit was hosted at Rochester Institute of Technology on June 25-28, 2008. Over the course of two days, groups met to discuss the impact of access services like remote captioning and interpreting on academic success for deaf and hard of hearing students in mainstreamed STEM classrooms.

The conference resulted in a report that summarized then-current practices and laid out a potential structure for an online community that provided supplemental support for students in those fields. More information can be found here.

Testing the Concept of a Virtual Alliance for Deaf and Hard of Hearing STEM Students at the Postsecondary Level

Following the summit report, NSF awarded grant number HRD-0927586 as part of their now-concluded Research in Disabilities Education (RDE) initiative in 2009.

This project began to lay the groundwork for an alliance of institutions focused on providing support for deaf and hard of hearing students in

postsecondary STEM classrooms. First, institutions with deaf students enrolled in STEM programs were identified. Then focus groups were hosted in conjunction with Postsecondary Education Programs Network (PEPNet), which sought to determine the key factors contributing to the academic success of deaf and hard of hearing individuals in the STEM disciplines.

Finally, several institutions were identified as viable candidates for participation in an alliance that would support the development of an online community that offered supplemental academic support. That alliance became the Deaf STEM Community Alliance.

Goals and Objectives

As stated on the [Deaf and Hard of Hearing Virtual Academic Community (DHHVAC) Web site](), the goal for the project is to "establish a model for a Virtual Academic Community (VAC) that will increase graduation rates of D/HH STEM majors in postsecondary education in the long term.

This goal is supported by two objectives:
1. **Documentation and dissemination.** Doing so will help build a scalable model to be replicated elsewhere to meet the needs of students with disabilities. This manual is one of the products of this objective.
2. **Increasing GPAs and retention rates.** Deaf and hard of hearing STEM majors frequently struggle in mainstreamed classroom and laboratory environments, and consequently experience high attrition rates. The services and connections we provide will offset this effect and lead to improved retention and academic performance.

Project Infrastructure Components

The goals and objectives of the project are supported by three main components of the project.

1. **Web-conferencing tools.** Web-based applications, such as Google Hangouts, that combine visual and textual communication to enable remote support services (tutoring and mentoring) and remote access services (interpreting and captioning).
2. **Communication network.** Web-based applications, such as Google+, that enable synchronous/asynchronous communication within a community of participants.
3. **Electronic resources.** Informational resources, available publicly on the Internet, that provide supplemental information and resources, such as discipline-specific sign-language dictionaries, professional organizations, captioned media, reports, and papers.

Challenges Addressed

The Deaf STEM Community Alliance uses the DHHVAC to address the following challenges:

1. Attrition in formal education of deaf and hard of hearing students in STEM disciplines
2. Barriers to access and learning in STEM education
3. Fragmentation of online learning resources currently available for students and their service providers.

Project Model

Tutor Model

Summary

Tutoring within the DHHVAC is virtual in nature. The original conceptualization was that tutoring would be exclusively synchronous. Synchronous tutoring   is enabled through Google Hangouts. Alternatively, some tutors and students found it more convenient to use asynchronous tutoring. Asynchronous tutoring is mostly implemented through email and exchange of documents and photos. Due to the administrative structure of one institution, many of the tutors for this program were recruited from the professional tutors and faculty members on campus. The DHHVAC relied heavily on tutors to recruit students who were deemed a good match for the program. This means that many of the tutors served dual roles as tutors and recruiters for the program.

Tutors were asked to keep a log of their tutoring activities for data collection purposes, as well as to keep staff members updated on any technical issues they experienced. Project staff were available for technical support for the tutors. Their areas of specialty have included Astronomy, Biology, Chemistry, Computer Science, Engineering, Mathematics, and Physics.

Teaching Methods

A variety of technologies were used to develop an effective virtual tutoring model. Tutors had access to the video-chat function in Google Hangouts in order to teach concepts to students who are ASL users. For students who relied on verbal communication, tutors used the audio function associated with Google Hangouts; students who relied on verbal communication and signed communication were able to use both.

Tutors have also used the chat function in Hangouts to explain topics in more detail, communicate when using screen-sharing, and to share documents and pictures from Google Drive. The chat function was often used as a backup in case a tutor or student experienced technical issues with the video.

Virtual whiteboards such as Conceptboard (see the Project Infrastructure section for more details) were used for tutoring sessions requiring more than signed, verbal, or written communication. Math courses in particular required tutors to use a handwritten process to demonstrate problem-solving, sometimes using Conceptboard for this purpose. For tutors who did not wish to use

Conceptboard, their own whiteboards and paper sufficed for a problem-solving demonstration. These non-virtual demonstrations are then communicated to the student through the Hangouts video chat.

Participation

Tutor participation varied depending on the institution and individuals participating. Participants included: professional tutors, faculty members, graduate students, undergraduate students, adjunct tutors, and other staff (captionists/interpreters). Their roles were determined by job duties and policies at their institution. Professional tutors at one institute were generally limited to teaching only the students in the classes they were assigned to. If a tutor wished to teach a student outside of their assigned course, they had to navigate the balance of not stepping on the toes of their assigned tutor. Faculty members were able to make use of Hangouts for tutoring students, office hours, or independent research projects with student employees over the summer.

Depending on the institute and their tutoring structure, experiences may vary. One institute did not have professional tutors and relies mainly on undergraduate and graduate student tutors. Another institute employed one of their captionists to provide tutoring sessions virtually for a student. When a tutor was needed, graduate assistants were hired through the master's level education program on campus.

Participation in the program was encouraged mainly by staff informational sessions held throughout the duration of the project. In some cases, participation from tutors relied on recruitment from personnel in the Disability Services offices. It is helpful, when recruiting tutors, to have the approval of the Department Chair, Disability Services Coordinator, or other tutors. At one institute, a participating tutor was willing to give presentations about the DHHVAC and go into detail about personal experiences adjusting to virtual tutoring. This gave other tutors a better idea of what would be required of them in the program, as well as aspects of the project that could potentially make their tutoring sessions more effective and accessible to students.

Lessons Learned
Benefits

Offering tutoring virtually presented a variety of benefits to tutors and students alike. Having a virtual tutoring session allows tutors to work from any location with a good internet connection. If a tutor knows they will be out of town for a conference or due to a scheduling conflict, they will still be able to continue the process of supporting students. Tutors can also extend their hours to weekends and evenings since they are not required to be on campus to complete the tutoring sessions.

Participation in this project has opened the door for various professional development activities. For example, individuals have mastered new technologies by using the Google applications. These technologies facilitated tutoring sessions as well as providing greater efficiency in other aspects of participants' professional lives. In addition, for staff and faculty who participate and are interested in scholarship, completing this type of work opens up a variety of opportunities to write and publish papers, and present at professional conferences.

Challenges

Institution policy drove the decisions made for this particular project. Not all institutes will encounter the same challenges or benefits that were encountered in this situation. Challenges related to professional tutors revolved around policies to ensure an appropriate workload. These tutors are only allowed to tutor the students enrolled in the courses they are assigned to. This limited student options for tutoring within the project in some situations. One situation that presented itself was a student reaching out to the community for tutoring on a specific subject. Since the department assigned tutor for that course was not participating, the student needed to find tutoring outside of the project. Even if there were tutors participating who had knowledge of the content area, this institutional policy presented a constraint on flexible model development.

Encouraging participation in such programs generally relies on incentives. Due to budgetary constraints of the grant, monetary incentives for participation in the project were not feasible. Staff of the DHHVAC were able to encourage participants to collaborate on publications, serving as an academic incentive. However, at one institute, this incentive was limited to tenure-track faculty members and not lecturers or professional tutors. The limitation on incentives also affected our ability to recruit and compensate mentors and students.

Student Model

Summary

The DHHVAC focused on deaf and hard of hearing students in STEM majors. Student communication preferences varied from ASL use to oral communication. Each student brought with them varying past experiences with tutoring, content knowledge, social skills, and career goals. Some students started their participation in the project at the beginning of their college career and others participated near the end of their college career. Student participation tended to vary, both as a given semester proceeded and as their need for tutoring or mentoring changed over time.

According to NSF guidelines, STEM majors include: Agricultural Sciences; Astronomy; Biological Sciences; Chemistry; Computer Sciences; Earth, Atmospheric & Ocean Sciences; Engineering; Mathematics; Physics & Physical

Sciences; Psychology; Social Sciences; Engineering Technologies; Science Technologies.

Participation

Students were frequently recruited to participate in the project by a tutor. Some of the students found the project in other ways, either through a personal connection or involvement with another project on campus. In the process of developing the project, and in an effort to expand the scope of participation, an attempt was made to recruit students at RIT through on-campus advertisement, such as posters and handouts. Cornell and Camden County College recruited students mainly through contact with the Disability Services Coordinator at the institution.

Student participation generally involved taking advantage of virtual tutoring as well as the mentoring program. It was expected that students would be participants in the virtual community by logging in to Google+ and interacting with the posts by either clicking on a +1 or leaving a comment. Students were encouraged to create their own posts as well to share information or ask a question.

Students were assigned mentors upon involvement with the DHHVAC; those mentors were selected from a volunteer pool of deaf and hard of hearing professionals and matched according to the student's major and mentor's occupation. Contact with mentors was chiefly initiated by the mentors following an introductory e-mail from DHHVAC staff.

Lessons Learned

Benefits

Based on student feedback, one of the greatest benefits of this projects from the student perspective was the ability to have a mentor. Students were able to have ongoing conversations with deaf professionals working in a field closely related to the major or interest area of the student. Conversations around resumes, interviews, and other aspects of starting a career were most helpful for students.

Students had the ability to receive virtual tutoring. These tutoring sessions could be completed in any location which made tutoring easy to access. Students could contact a tutor or professor virtually while at home or across campus. This eliminates the barriers of inclement weather or distance that students encounter when trying to access tutoring. Flexibility in scheduling due to the virtual nature opens up more tutoring times on weekends and evenings which are times that students generally don't have access to tutoring services.

Through the virtual community, the students had access to STEM news as well as the contact information of other deaf and hard of hearing students interested in STEM fields. This virtual community gives students the opportunity to communicate and collaborate with peers who they might not otherwise meet.

Challenges

Challenges for this project mainly revolved around recruitment and engagement. A variety of methods were used to recruit students for the project, while many were successful it still was challenging to get students to participate. In an effort to boost recruitment, posters with contact information were hung around one campus and staff members attended student-centered campus events. With these efforts, student recruitment did not increase as much as anticipated. It is plausible that one deterrent to successful recruiting was the inability of the project to provide students with monetary or other compensation. These incentives were limited to do budget limitations.

Once students were enrolled into the project, engagement within the community was sporadic. Through conversations with students, the consensus seemed to be that students were reading posts on the community through email but not frequently interacting with that material by leaving a comment or posting themselves. This is a common phenomena among social media users, often referred to as "lurking."

Mentor Model

Summary

Mentors are drawn from multiple sources, but possess several salient characteristics:
- They have some form of hearing loss;
- Their career relates to some aspect of STEM;
- They are working professionals and/or faculty;
- They are able and willing to undertake regular communication with their assigned students and with the project as a whole.

Mentorship within the project fulfills two primary goals. Mentors, as deaf or hard of hearing individuals successfully working in a STEM field, function as role models that enable the socialization of DHH students into STEM environments, workflows, and procedures. Additionally, mentors' unique experiences and commonalities with DHH students in STEM majors allow them to share advice and feedback on subjects including, but not limited to, professional conduct, workplace communications, and professional development.

Students are assigned mentors when they agree to participate in the project. The mentor is often a professional who works in a field related to the

student's major. In some cases, a given mentor may have multiple students due to recruitment considerations. In some cases, a student may have a specialization for which there is no mentor available; in those cases, project staff will need to recruit a new mentor to meet the student's needs.

Participation

Once an application has been completed and a background check yields no cause for concern, the mentor is expected to maintain regular contact with their assigned student(s). The expected minimum amount of contact is six times per academic year, or three times per semester, via Google Hangouts. Additionally, mentors are expected to participate in DHHVAC group Hangout meetings three times a year, and to provide feedback through online surveys and e-mail interviews.

Lessons Learned

Benefits

In cases where students have specifically requested a mentor for their academic specialization, preliminary feedback suggests that the ability to do so positively impacts the student's engagement and self-efficacy. Additionally, clarifying expectations, desired outcomes, and participant roles have been shown to be vital in maintaining a structured and productive relationship. Coaching from project staff and regular check-ins also positively impact mentor-student relationships and project engagement.

Challenges

As with tutors and students, the DHHVAC is prohibited by the terms of its funding from providing financial incentives to project participants. Since mentors are drawn from a pool of working professionals, many full-time, this means that their time is at a premium.

Additionally, since mentors must also be deaf or hard of hearing, recruitment is complicated by population size; a small percentage of the workforce is deaf or hard of hearing. This pool is further reduced by the historical attrition of DHH students in STEM fields, and still more by the lack of incentive. Consequently, there are more current students in STEM fields than there are mentors able to work with them. The asymmetry that results also leads to the assignment of multiple students to a single mentor, which further increases the mentor's workload.

Recruitment

Purpose

The heart of the DHHVAC is its membership. Included in this section is strategies used to recruit participants as well as criteria for identifying potential members. Materials can be found to guide you through the process of signing up a new member (Appendix 1: Google Participant Sign-Up), doing an orientation through email (Appendix 2: Email Orientation), and completing an in-person orientation (Appendix 3: In-Person Orientation Meeting).

Tutors

There are a variety of avenues to recruit tutors to participate in this project. Tutors not only provide one-on-one or small group direct instruction, but they also have the opportunity to post and share information in the private Google+ Community. If working with faculty or professional tutors, it will be important to get the endorsement of the department chair that the tutors are working in. There are four types of tutoring models that can be used. These models are illustrated in Figure 1.

Figure 1. Tutoring Models in the DHHVAC
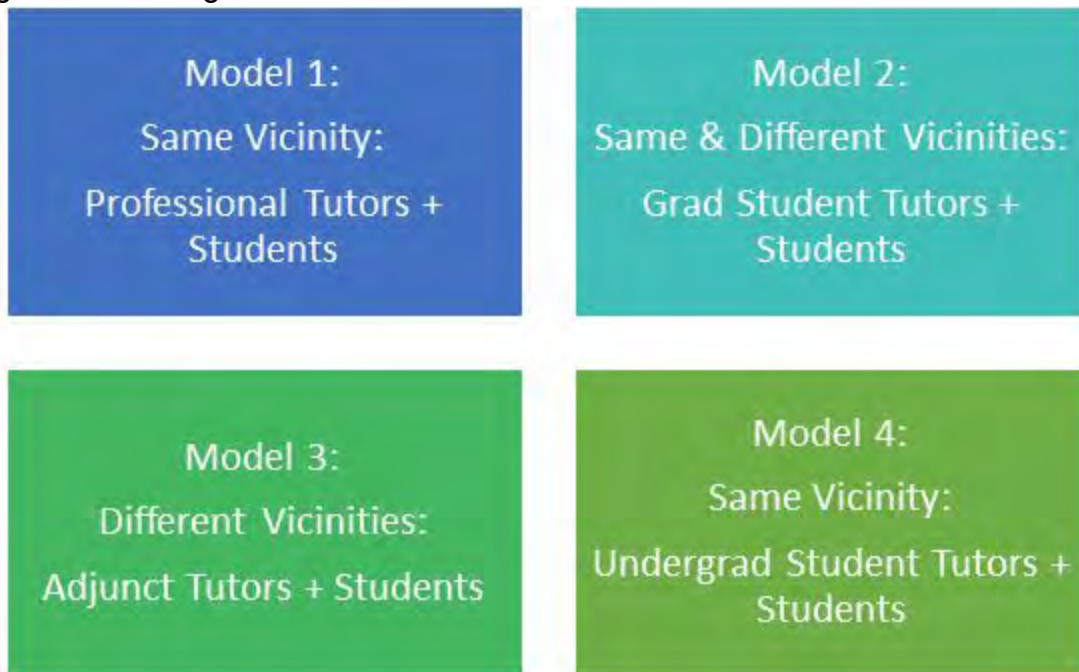
Model 1: Same Vicinity: Faculty or Professional Tutors and Students. Model 1 tutors are best recruited at the beginning of the project. It is easiest to gain support at your own institution before expanding to others. Tutors are already familiar with the student demographics and their needs. This also offers the flexibility to meet in person if a student or tutor encounters technical issues during a remote session.

Model 2: Same & Different Vicinities: Graduate Student Tutors and Undergraduate Students. Graduate students who are skilled in a content area or have a background in education present another potential recruitment pool. These types of tutors can either be incentivized through stipends or work on a volunteer basis. Since students and tutors are conducting sessions virtually, they can be in different locations.

Model 3: Different Vicinities: Adjunct Tutor and Students. Depending on your institution, there may be restrictions on workload for faculty and professional tutors or there will not be a tutor available for a specific content area. Adjunct tutors can be hired to fill the gaps in tutoring that exist. Since this is virtual tutoring, adjuncts do not need to be located at the same institution or state as the student. This is especially helpful if you do not have a tutor available on your campus and can search for the best qualified candidate in any location.

Model 4: Same Vicinity: Undergraduate Student Tutor and Student. Many institutions make use of undergraduate students as tutors through a work-study program. These tutors have previous experience with tutoring and knowledge in a subject area and can be hired to participate in virtual tutoring.

Strategies to recruit tutors:
- Reach out to faculty and professional tutors on campus.
  - Department Meetings.
  - Professional development meetings.
  - Information sessions.
  - Conferences held on campus.
- Gain the approval of the Department Chair or Dean. They can encourage their staff to participate.
- Hire volunteer or paid graduate students who meet your criteria.
  - Reach out to professors and department heads who work with graduate students.
  - Reach out to the teacher preparation program.
- Hire volunteer or paid undergraduate students who meet your criteria.
  - Reach out to professors for specific subject areas for suggestions of undergraduate students.
  - Reach out to tutoring departments on your campus that hire student tutors.

● Hire adjunct tutors who meet your criteria.

Candidate Criteria:
● Willingness to learn technology.
● Interest in the project.
● Familiarity with accommodations and teaching methods to use with students with disabilities.
● Content knowledge
● Good communication skills
    ○ If working with deaf and hard of hearing students, competency in ASL.
● *Preferred--* Prior knowledge of software being used (Google Hangouts, Google Drive, Conceptboard, etc.).

Students

Students can be recruited in a variety of ways to participate in the community. Strategies for student recruitment are illustrated in Figure 2.

Figure 2: Student Recruitment Strategies

Model 1: Tutor Recruitment. For this type of recruitment, tutors who have already agreed to be part of the project reach out to the students they are tutoring and encourage them to contact project staff members. After the tutor

initiates this communication, staff members set up an orientation meeting to introduce the student to the program and ensure that consent forms are signed.

Model 2: Direct Student Contact. Model 2 recruiting strategies involve direct action from staff members. Staff members use the connections they already have with students (advising, disability services connections, or former students) to find more participants for the project. A good candidate is contacted directly by a staff member to discuss the objectives and benefits of the project. If the student is interested, an orientation appointment is set.

Model 3: Recruitment at Exhibits. On- and off-campus events provide unique opportunities to share information with large groups of students. Students can sign up and will be contacted after the event to get a more thorough explanation and consent forms to complete.

Model 4: Recruitment through Other Projects. If there is another project on campus or nearby with a similar audience to the one you are trying to recruit, it can be helpful to collaborate. Presentations can be done to groups of students participating in other projects and reference materials can be handed out. Students will receive contact information so they can request more information.

Model 5: Recruitment Through On-Campus Advertisement. Students can be recruited through advertisement on campus, such as posters or handouts. For examples of the advertising used by the DHHVAC, see our handout example and poster example.

Candidate Criteria:
- In an appropriate major or enrolled in a course fitting with your program objectives.
  - If focused on STEM, students who are taking a STEM course or are in a STEM major.
- Willingness to learn technology.
- Interest in the project.
- Willingness to share GPA (to measure the effectiveness of the program).
- *Preferred*-- Prior knowledge of software being used (Google Hangouts, Google Drive, Conceptboard, etc.).

Mentors

There are a variety of methods that can be used in order to recruit mentors to participate in the project. For a list of mentor activities please refer to the Mentoring Manual. The recruitment models are depicted in Figure 3.

Figure 3. Mentor Recruitment Strategies
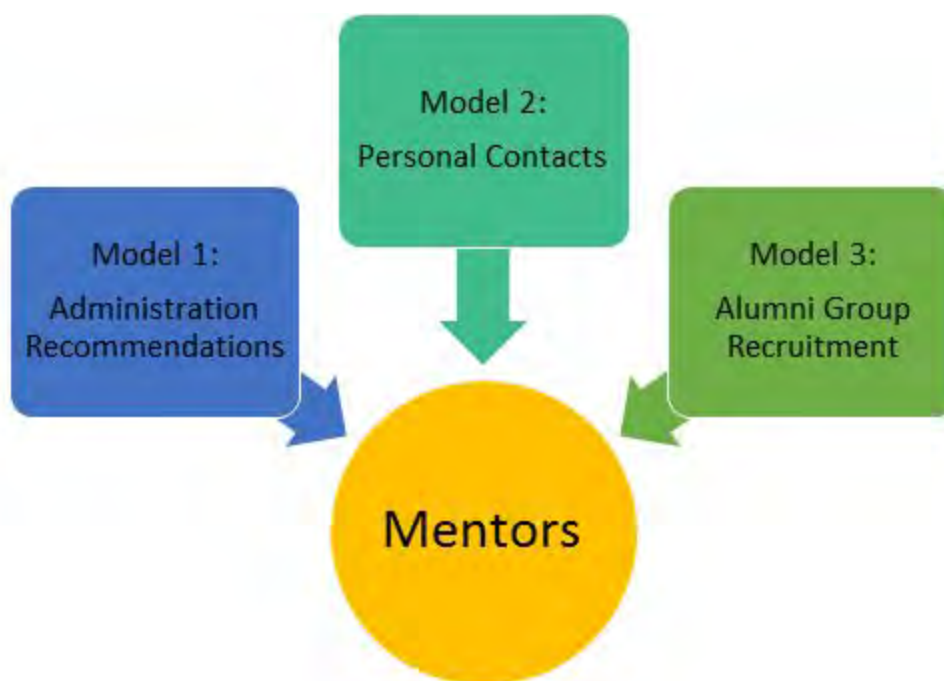
Model 1: Administration Recommendations. In many cases, an effective way to start recruiting mentors for the program is to be in contact with your institution's administration. Frequently advisory groups, foundation boards, and other administrative groups will have recommendations of individuals who meet the criteria you are looking for. After receiving recommendations, potential mentors should be contacted with a description of the project and its program and an invitation to participate.

Model 2: Personal Contacts. Mentors may potentially be individuals known on a personal basis. This group of possible recruits includes former student employees, former staff members, or an acquaintance made through networking opportunities, such as a conference.

Model 3: Alumni Group Recruitment. The alumni department on campus is a useful resource for finding individuals who meet your criteria for the program.

After developing a list, it will be important to contact all potential candidates and describe the project and their potential role. Additionally, close collaboration with the institution's Alumni Association or Alumni Board yields positive results.

All interested candidates must complete an application and submit to a background check administered by RIT's Office of Human Resources. Interested candidates were given a brochure with details of the program. You can find the brochure here.

Candidate Criteria:
- Working in a field fitting with your program objectives
  - If focused on STEM, mentors working in STEM fields.
  - Varying fields to better match students with mentors based on career goals
- Willingness to learn technology.
- Good Communication.
  - If working with deaf and hard of hearing students, ASL competency is needed.
  - An ideal mentor would be able to communicate with students who have varying communication skills and varying preferences for mode of communication.
- Mentors of diverse backgrounds.
  - Varying disabilities, gender, ethnicity, etc.
- Ability to commit to communication with students and maintain an online presence in the Google+ Community.
- *Preferred*-- Prior knowledge of software being used (Google Hangouts, Google Drive, Conceptboard, etc.).

Project Infrastructure

Hardware

For active participation--such as remote tutoring and mentoring--the infrastructure is not dependent on specific hardware, due to the cross-platform nature of the Web-based applications involved (see next subsection). Generally, the following are required:

- Camera
- Screen
- Keyboard (for text-based interaction supplementary to videoconferencing as needed)
- Internet connection

The ability to run specialized applications--such as Google Hangouts on Android or iOS-based devices, for example--is recommended, but not required. A hardwired connection, such as Ethernet, is also recommended, but not required.

Devices that can be used include: iPads, laptops and desktops running OS X and Windows, and Chromebooks. Smartphones may also be used.

The device-independent of this model particularly addresses the main barrier of cost. Although devices may be loaned to participants in order to facilitate their involvement, requiring specific devices for participation may be financially unfeasible at larger scales. Allowing tutors and students to use their own devices is not only more cost-effective, but also reduces the initial effort required to participate.

Software

Project Web Site
First, the public-facing component of the infrastructure--the public Web site--must be considered. The Web site serves as an introduction to the project and its program for individuals who are not participating, but are interested for a variety of reasons, including:

- Replication in a different location, milieu, or discipline
- Potential participation as a tutor, mentor, or student
- Research and analysis

With that in mind, the Web site should also be hardware-agnostic, albeit for a different reason: accessibility on a range of devices and to a range of

disabilities. As such, universal design principles should be incorporated in a responsive design that can accommodate not only mobile devices, tablets, and computers, but also screen readers and other accessibility features available on those devices (such as high-contrast or color-corrected viewing). Recently, Google changed its search engine algorithm to give priority to websites that use responsive design principles, so using a responsive design is a must when creating a website that can be found using a search engine.

There are various ways to go about creating a Web site; domain names can be purchased from online registration services like GoDaddy. Often, it may be a good idea to purchase other top-level domain suffixes as well—.com, .org, .net, and so forth—in order to protect the domain name from being used to lure would-be visitors into downloading malware or viewing unwanted material.

After that, hosting becomes the primary concern: Who will own the server that houses the Web site? If the program is affiliated with a larger organization—such as an academic institution or community service provider—that organization may represent the best option; DHHVAC's Web site, for example, is hosted by its parent institution, RIT. Many larger registration service providers, including GoDaddy, offer hosting services as well as registration. Both registration and hosting constitute recurring expenses; they need to be renewed annually, although many services offer the ability to pay for several years in advance, with a commensurate increase in fees.

Once the address and space for the Web site have been secured, its development and maintenance becomes the primary and final concern. Given the historical tendency of Web development standards to evolve over time, modular platforms that both simplify and expand possibilities for content management may be the best option. Drupal, for example, underpins the DHHVAC Web site and offers the flexibility and power needed to draw in content from multiple sources and display it consistently with the latest accessibility standards.

The main drawback of Drupal is that it often requires a steep learning curve; other content management systems offer similar functionalities, but are easier for beginners to adopt, such as WordPress. Because of the difference between options, the knowledge, skills and abilities available to the program are also important considerations.

Google Apps for Education

The needs of a virtual academic community can cover a wide range of communication modalities: synchronous/asynchronous; textual/visual; public/private. In some situations, real-time communication is necessary, such as remote tutoring; in other situations, the ability to post a message for multiple

users at one time is preferred, such as informing users of recent changes to the applications being used.

When building infrastructure, the goal will likely involve accommodating multiple needs and situations simultaneously on a single platform that integrates a variety of potential means of communication.

One such platform--adopted by the DHHVAC for this purpose--is Google Apps for Education (GAFE) which provides nearly the full suite of Google applications on a secure, custom domain. This service is provided for free, offers administrative security, and enables archiving to support the documentation process.

The remainder of this section will focus specifically on the functionalities and applications that saw heavy use in the DHHVAC on a daily basis and clarify how each contributes to the project as a whole.

Administrator Account
The main administrative account fulfills a number of needs; not only does it allow the addition of new members, ensure account access for those members, and communicate with the community, but it also allows the collection of user analytics for reporting and documentation. Through this account, the current participant pool can be organized and all relevant documents archived.

Individual Account
Each member of the community may be assigned an individual, private Google account on the custom domain, such as @dhhvac.org. This account is separate from all other Google accounts already held by the participant, and includes access to community-specific instances of Google applications, which are also separate from other personal, academic, and professional accounts held by the participant. However, since it is still a Google account, it can be accessed in the same way as a personal account through smartphone applications and Web browsers (Appendix 1: Google Participant Sign Up).

Google+
Google+ is Google's social network application. Its main utility is the ability to create a private community of professionals, faculty, and students. The community is set to private in order to better track participant usage (Appendix 4: Accessing the Private Google+ Community). In the community, participants are able to share text, URLs to other Web sites, videos, and photos that are relevant to STEM fields (Appendix 5: Creating a Post). On each post, other participants may add text comments or express agreement by clicking a "+1" button. This allows project staff to keep track of participant interaction and encourage

community engagement while ensuring that data collection is not affected by unaffiliated users.

In addition to the private community, a public Google+ page may be maintained. This allows interested individuals around the world to investigate the community and its activities without intruding on interaction within the community; the public page can also automatically update the DHHVAC Website with recent activities, such as conference presentations and mentor visits.

Google Hangouts
Hangouts is Google's main real-time communications application. It is fully integrated into other asynchronous applications, including Gmail and Google+, as well as constituting a stand-alone application within the Chrome browser and on mobile devices running Android and iOS.

Acting as the primary vehicle for remote tutoring and mentoring in real time for participants, Hangouts offers the ability to videoconference (Appendix 6: Using Google Hangouts). This enables the use of American Sign Language, a key mode of communication for deaf and hard of hearing students, tutors, and mentors. In some cases, participants are more fluent in American Sign Language (ASL) than in English; in situations where fluency is asymmetrical—such as when a tutor is less skilled in ASL than their student—Hangouts offers in-browser text-based chat functionality as a supplement.

Less often used--but nonetheless useful--is the ability to share one's screen with the other individual in the chat; a tutor might be able to read a student's problem set without needing access to the document itself, or a student may be able to follow a tutor's example.

Additionally, Hangouts offers in-chat integration with other applications, both those created by Google--such as Google Drive--and those created by third parties, such as Conceptboard, both of which are discussed below.

Additional Applications and Functionalities
Google Drive is an online storage application that enables users to upload files and access them remotely from an Internet-enabled device. In addition to its use as a storage drive, however, Google Drive is also useful as a means of sharing documents and other files. For example, a student may have been assigned a problem set that was uploaded to their course site on the institution's Learning Management System (LMS). The tutor will often lack access to the course site, which may affect their ability to assist the student in completing an assignment.

However, the student can upload a copy of the problem set to Google Drive, then share it with the tutor; Google Drive also integrates with the Hangouts communication platform, allowing in-chat document sharing. Another aspect to Google Drive that is helpful for the virtual academic community is its unlimited storage. All accounts created through GAFE have unlimited storage in Google Drive.

Conceptboard is another useful application that integrates with Google apps. Members of the community can access the application using their DHHVAC log-in information. It functions as an online whiteboard; users can share a single "board," on which they can post documents, images, or other files, comment on them, and hold live discussions while collaborating on documents in real time. Conceptboard can also be used independently of Google apps. It's important to note that this app requires an annual license; the educational license is available for a nominal fee.

Community Engagement

Purpose

A community is only as good as its members' engagement. Included in this section are strategies to get members engaged in virtual and in-person activities. We have also included how to complete user analytics to keep track of participant engagement with the Google+ page.

Google+ Engagement

Encouraging member engagement with the discussion in Google+ is important.. Staff posts should have a friendly, conversational tone to create a feeling of community. A variety of fill-in-the-blank statements or problem-solving situations may be presented to members in order to encourage them to give a +1 or, optimally, comment on a post on the community. Asking for opinions, creating surveys, and making competitions or giveaways can create more motivation to participate. If you find that you are consistently seeing participation from only a small percentage of your members, focus on the responses you are getting and interact with those individuals more. Use "+name" to tag those individuals in posts or use +1 to show that you have read their comment or post (Appendix 7: Methods to Encourage Community Participation). Through off-line conversation, you may learn that some participants frequently log in to Google+ without leaving a comment or clicking +1. Encourage them to participate with the suggestions above and spend some time learning about why they are reluctant to participate more actively.

User Analytics

Community engagement varies from project to project. Some techniques for encouraging community participation may work for you and others may not. One of the best ways to determine what methods are most effective is having some type of measurement tool. This is where user analytics come into play. Depending on what software you use, there will be varying types of built-in user analysis. However, there may be gaps in the user analytics available and you may need to do some of it yourself (Appendix 9: How to Complete User Analytics).

Mentor Visits & Events

Creating opportunities for students to meet with mentors will help develop a positive connection between the students and mentors. You can hold informal meet and greets or have formal question and answer sessions. An event can be created in Google Calendar and shared so that students can RSVP to the event

and be kept informed of any location or time changes. Any formal question-and-answer sessions can be recorded, captioned, and uploaded to your YouTube page for students who are unable to attend due to time constraints or distance. Read more about creating an effective YouTube channel below. Lastly, it is possible to host a "Hangout on Air" to allow students and mentors in different locations to have an interview session, which can be uploaded to YouTube for later viewing.

Newsletter

Once a month, staff members can create a newsletter to be shared within the community. This newsletter is posted on the private community feed. By doing so, this newsletter is also sent to each member's personal Gmail account. The newsletter contains updates on the project, announcement of new members, resources, and interesting information or articles for members. It may also contain events or other vital information pertaining to the community (Appendix 8: Newsletter Ideas). You can find a template of a newsletter for the DHHVAC here.

YouTube Channel

YouTube is another way to share visual information with students, mentors, tutors, and the public. It is possible to create YouTube playlists that can be shared by email with new members or posted to the Google+ private community (Appendix 5: Creating a Post-- Posting a Video). Some of the types of videos that can be uploaded to YouTube include: project presentations or information sessions; mentor events or interviews; Google Hangouts on Air; tutoring examples or sessions; and tutorials for using Google. An example of a YouTube channel can be found here.

Appendices

Google Participant Sign-up

Revised: July 17, 2015

<u>Purpose:</u> To create a new account in Google.

To create an individual account

From the Administrator Account:
- Open: Gmail
- Select: Gear icon
- Select: Manage this domain
- Sign in again with password (if prompted)
- Select: Users
- Select: Participants (Left side)
- Click on the small arrowhead next to Participants. This will drop down a list of participant categories.
- Select: Appropriate participant category -- Mentor, Student, or Tutor (Selection will take a few seconds to populate)
- Select: + Add more users (green circle with a +)
- Create new user window will appear
- Add: First/Last name
- Add: Primary email address (Suggestion: use first initial and last name only)
- Select: Create
- Getting started instructions window will appear displaying username and new email for the VAC
- You can choose to print the getting started instructions for the participant, or have an email sent to their new gmail account, which will include their password assigned by google
- Select: Create user

You have now added a participant to the project.

After an account has been created in Google, schedule an orientation meeting with the participant to complete the sign up steps or email the participant the instructions for the next steps

Email Orientation

Revised: November 20, 2015

Purpose: Due to the virtual nature of the project, students, mentors, or tutors may not be able to come in for an in-person orientation. This is an example of an email to be sent to these members to orient them to the project and get them started with Google+.

Please remember, all consent forms must be sent to the potential member and returned signed before beginning this process.

Email Example:

Hello (member name),

I hope you are enjoying your summer! (Staff name) asked that I begin the process of getting you set up in the Google+ community. I have begun the set-up to get you a Google account under our project. I have listed the next steps for you to follow to get your account set- up. Once this is done, we will add you to the Google + community page. There is no rush, but we wanted to get you started on this.

To participate in the community, we have assigned you a Google email address associated with the project.

For your project email address, you have been assigned:
firstinitial.lastname@dhhvac.org

Here is step-by-step how to get set up:

- To begin type: gmail.com
- Your username is firstinitial.lastname@dhhvac.org
- Your temporary password is: dhhvac2015
- You will be asked to change your password when you sign in the first time. Pick a password that works for you.
- You will see this screen

Welcome to your new account

Welcome to your new account: j.smith@dhhvac.org. Your account is compatible with many Google services, but your dhhvac.org administrator

decides which services you may access using your account. For tips about using your new account, visit the Google Help Center.

When you use Google services, your domain administrator will have access to your j.smith@dhhvac.org account information, including any data you store with this account in Google services. You can learn more here, or by consulting your organization's privacy policy, if one exists. You can choose to maintain a separate account for your personal use of any Google services, including email. If you have multiple Google accounts, you can manage which account you use with Google services and switch between them whenever you choose. Your username and profile picture can help you ensure that you're using the intended account.

If your organization provides you access to the Google Apps core suite of messaging and collaboration applications, your use of those services is governed by your organization's Google Apps agreement. Any other Google services your administrator enables ("Additional Services") are available to you under the Google Terms of Service and the Google Privacy Policy. Certain Additional Services may also have service-specific terms. Your use of any services your administrator allows you to access constitutes acceptance of applicable service-specific terms.

Click "Accept" below to indicate that you understand this description of how your j.smith@dhhvac.org account works and agree to the Google Terms of Service and the Google Privacy Policy.

- Click accept
- You will then open to the Mail screen
- Please create your profile and add a picture if you have one available
- Click in the grid area, to the left of your Gmail login name (firstinitial.lastname@dhhvac.org)
- Select G+/Google+ from the apps menu
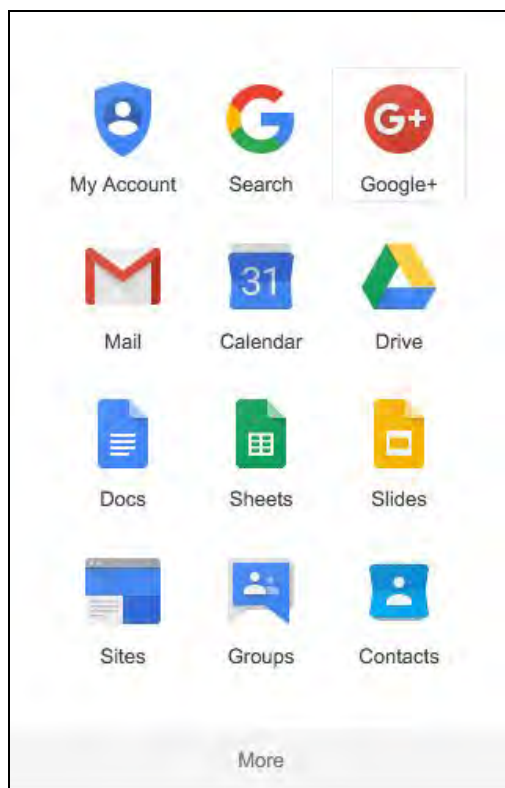
- Select Gender
- Birthdate
- Add picture ID you have not already done so
- Follow any other prompts to fill in information

I will then authorize you to use the Google+ platform once you have entered all your information. Look for a follow-up email from me about how to navigate Google+.

Let me know if you have any questions.

Sincerely,

Staff Member

Invite New Member to Google+:

Administrator:
- Log into G+
- Left side of screen, select the "Share" button superimposed over the logo, between the circular "Information" button and the three-dot menu button.
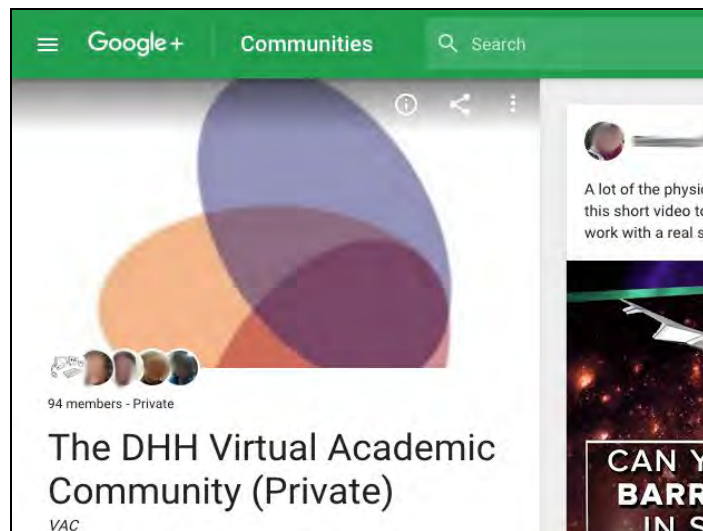
- Click on "Invite people."
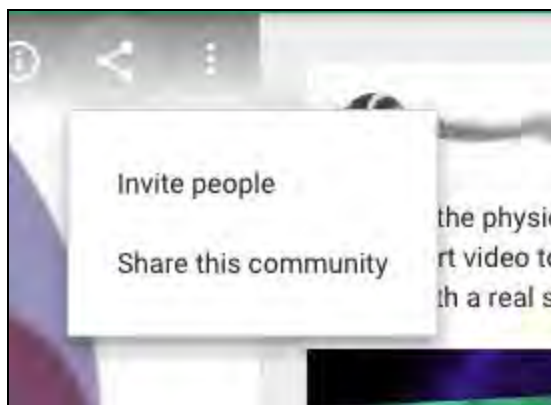
- In the window that pops up, look for a blue link at the top that says "Choose people to share with" and click on it.
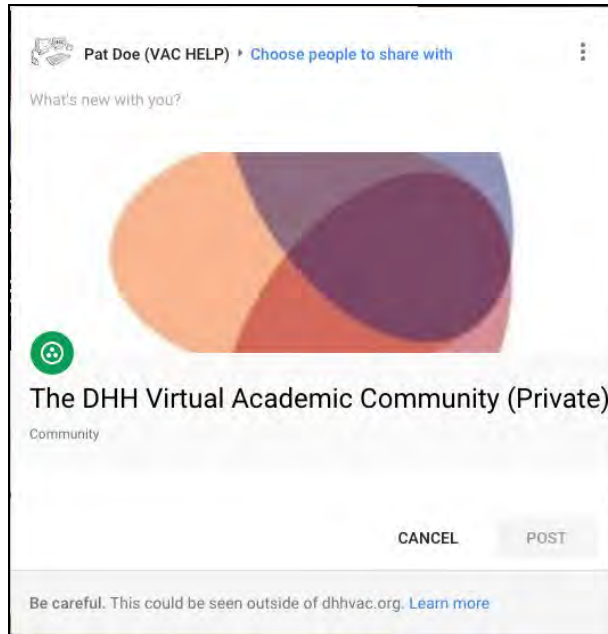
- You will need to click on "See more" in the window that follows to find more options:
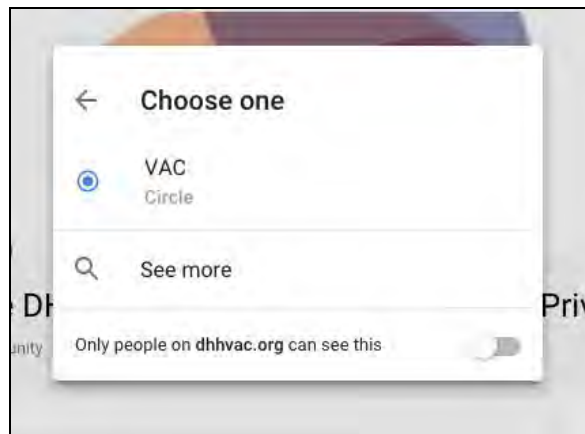
- In the third line from the top, you will likely see a gray button with the name of a group, "VAC" in this example. Click on the "x" in the button in order to remove "VAC"; you can then enter a person's name or e-mail address to share the invitation with (your invitee must already have a Google+ profile):
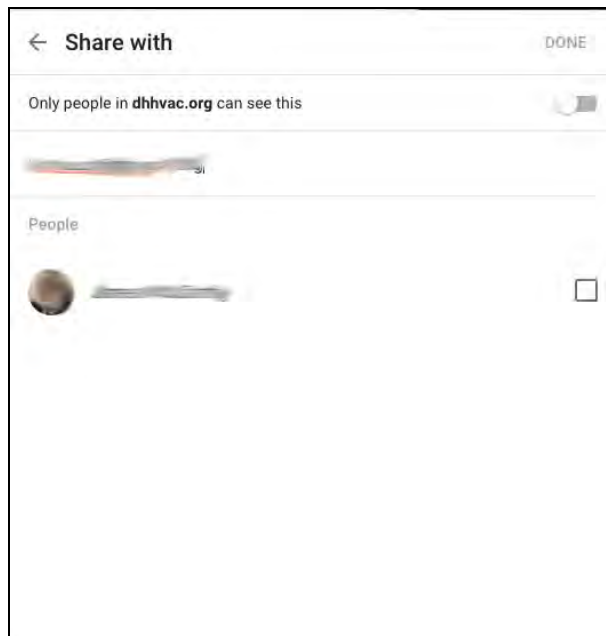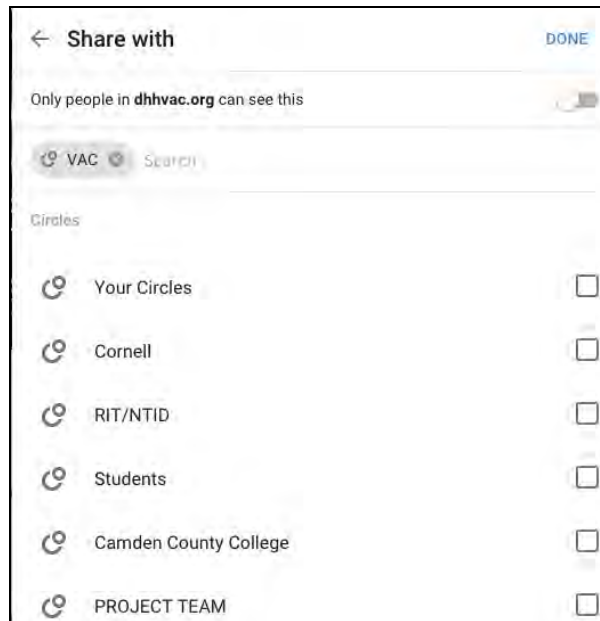
- After clicking the checkbox next to the individual you want (see image above), you will be able to share the invitation:
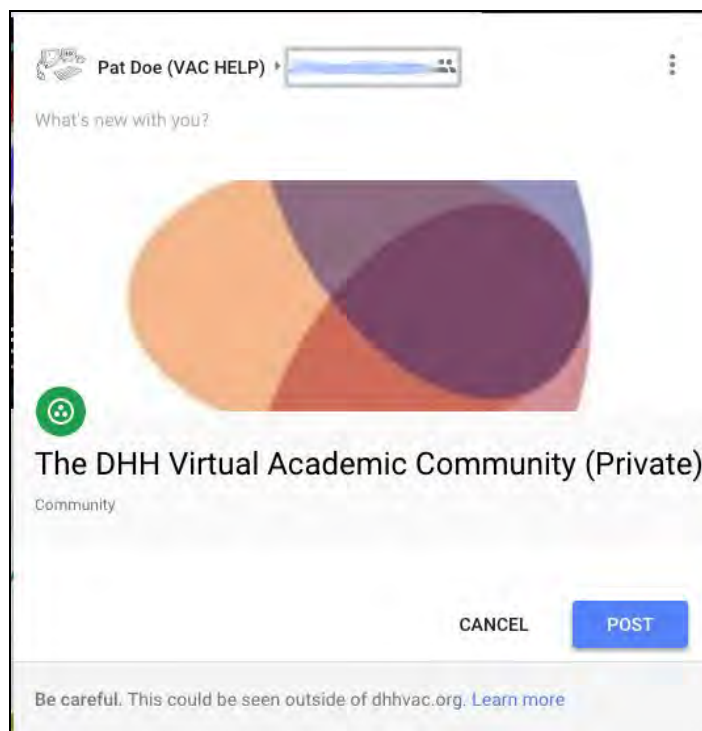
Participant:
- Send email to participant and prompt to follow these steps
    - Open: Google+
    - Attach directions on how to access the Google+ community page and how to make a post.

In- Person Orientation Meeting

Revised: November 23, 2015

Purpose: To complete Google+ profile and review all the components of the DHHVAC.

Steps to follow to complete Google+ account creation
Participant:
- Sign-in to Gmail DHHVAC account using the password assigned by Google
- Change the password
- Select: Google Apps
- Select: G+ for account set-up
- Add: Birthdate, gender, photo and profile details

Administrator:
- Log into G+
- Left side of screen, select the "Share" icon above the logo; drop down menu, invite people

Participant:
- Open: G+
- Accept the invite to G+ private community through the link in the shared post

Additional things to cover during the orientation meeting:
- Sign consent forms
- Show DHHVAC.org website and emphasize resources and support available
- Show YouTube channel (talk about content)

Follow-up after the Orientation meeting

Administrator:
- Add participant to the appropriate Circles
- Post a welcome message to the community for the new participant

Accessing the private Google+ Community Page

Revised: November 20, 2015

On the menu bar
- Log in to your gmail account.
- At the top right corner of your gmail account you will see a graphic of nine small boxes arranged in a grid.
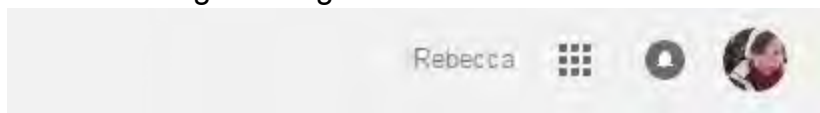
- Select these boxes (otherwise known as your "Google Apps").
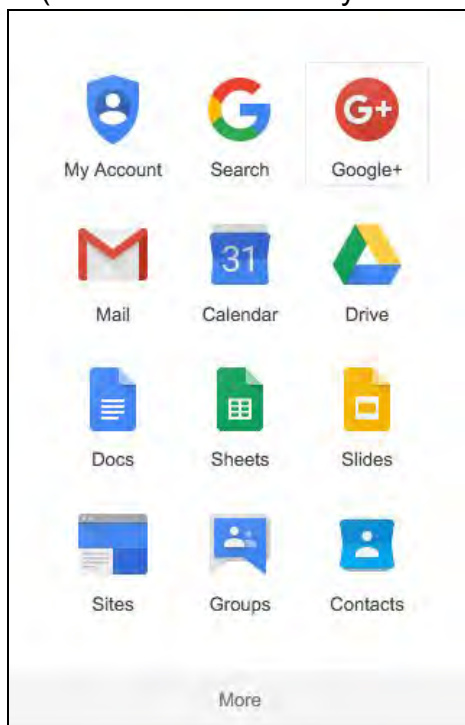
- Select G+/Google+
- Select "Communities" from the menu on the left-hand side of the page
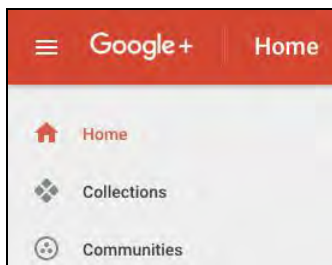
- Select "The DHH Virtual Academic Community (Private)" on the next page

Creating a Post on the Wall of the Google+ Community

Revised: December 8, 2015

Purpose: When wishing to share information, articles, pictures, and videos with the members of your Virtual Academic Community, it should be posted in the Google+ private community.

General steps to make all postings on the Google+ community page:
- Click on the "What's new with you?" box on either your home page or the Community page:
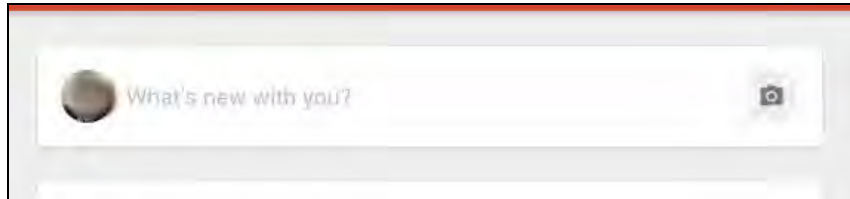
- That will open a window that will allow you to make a new post. At the top of this window, click on the blue link describing where your post will go.
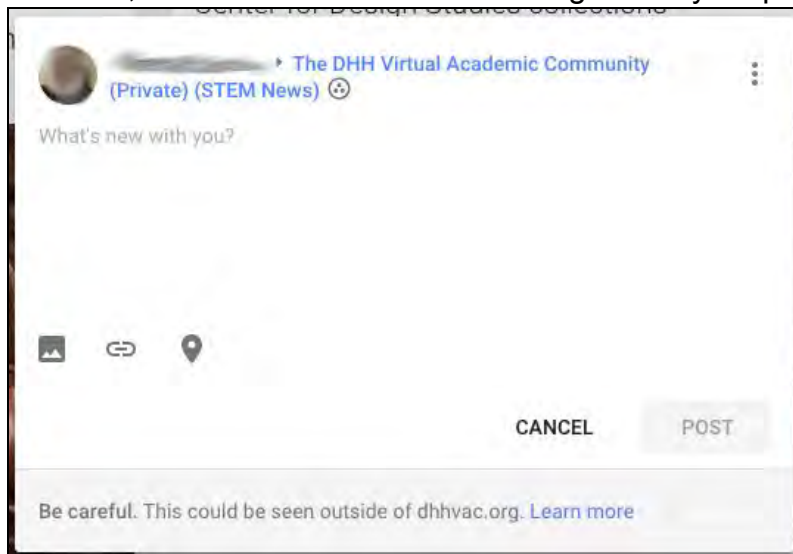
- A new window will pop up with various options, including "See More." Click on "See More."
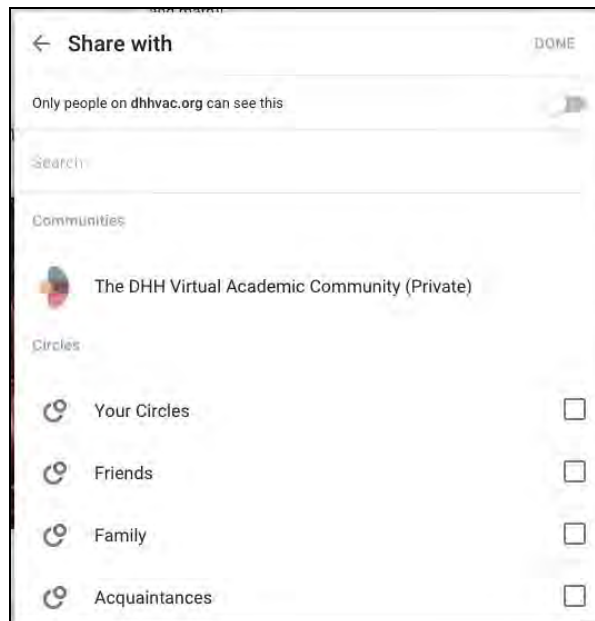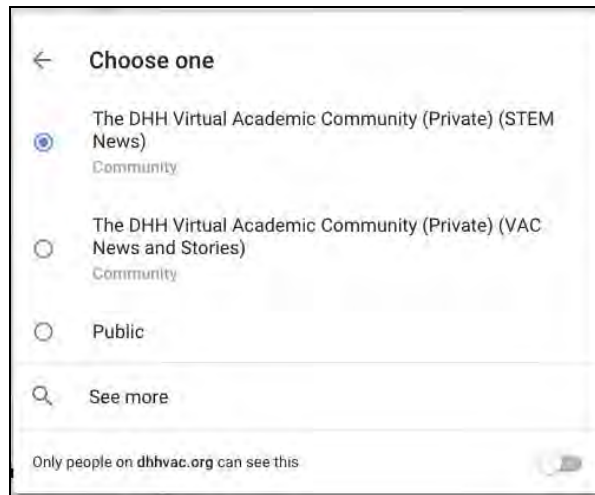
- Clicking on "The DHH Virtual Academic Community (Private)" will yield another window with a list of possible subcategories. Select one.
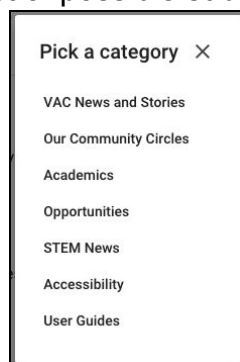
- Selecting a subcategory will take you back to the original new-post window with the correct location in the blue link. At the bottom of this window, you will see three options: Photo, link, or location. See the next two sections for more information on posting photos and links.
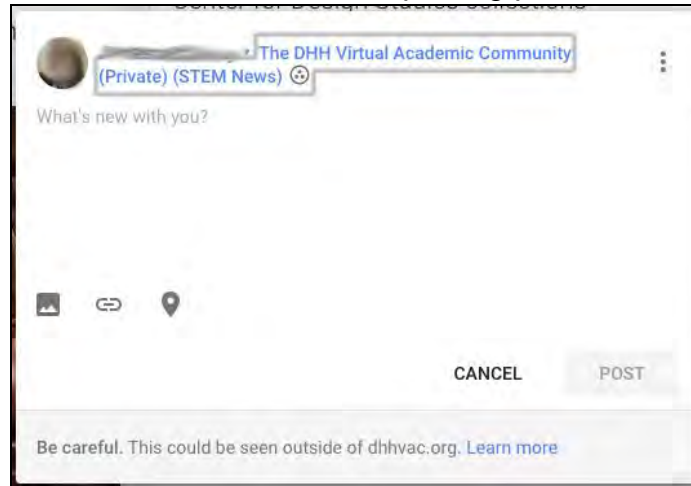
- You can add your own text at any time before posting by clicking on the gray "What's new with you?" text just below your profile picture.
- Once content has been added, the white-and-gray "Post" button will become blue-and-white and can be clicked to complete the post.

To post a photo:

- Click the photo button near the bottom of the "What's new with you?" box.
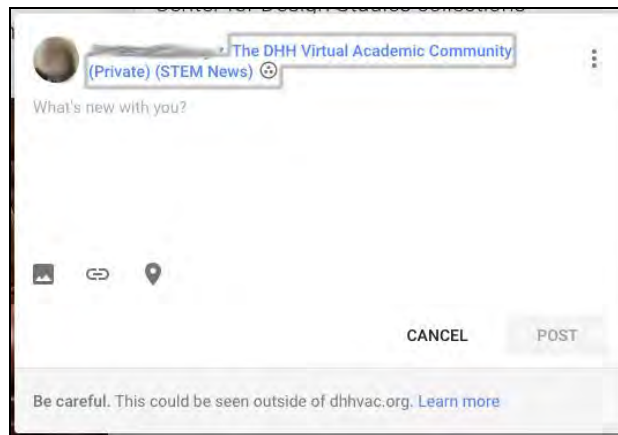
- A new window will pop up with either the option to upload a photo or use an already-uploaded photo from your Google Photos account.
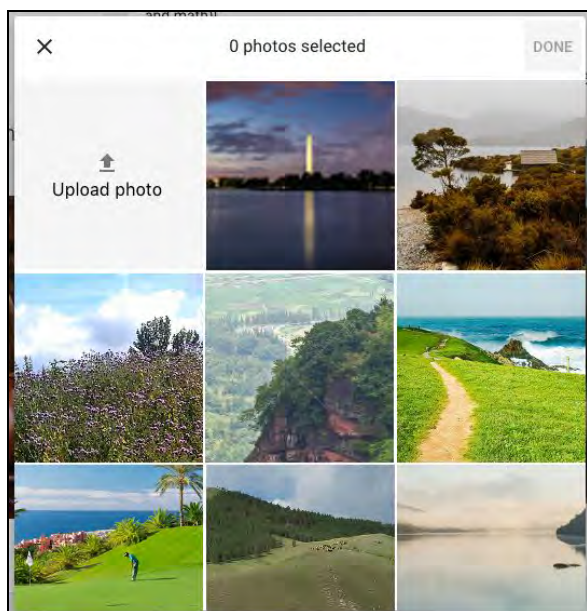
- ○ Option 1: Click on "Upload photo" to add an image from your computer.
- ○ Option 2: Select one of your Google Photos from the grid that appears.
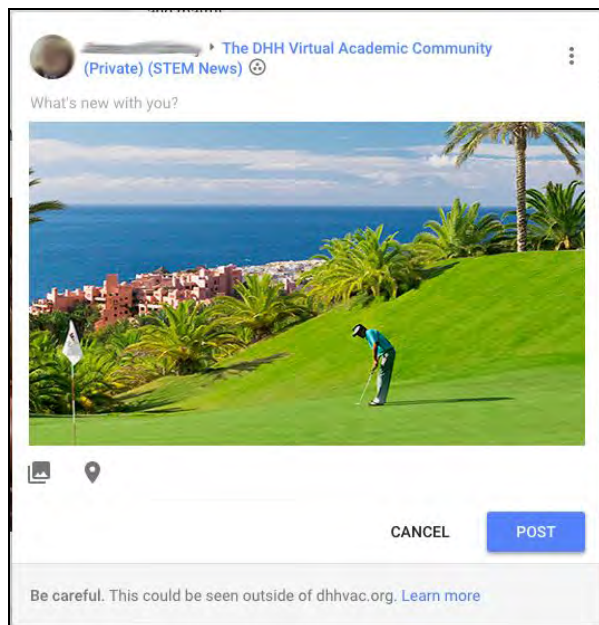
- ● Add an introductory statement in the "share what's new" box
- ● Select the appropriate location for your post using the blue link at the top of the "What's new with you?" box.
- ● Click on the blue "Post" button.

To post a Google Doc:

- The "Link" option can be used to post Web sites, share Google Docs, show YouTube videos, or anything else that can be shareable with a link.
- Once you have created the document in Google Docs
  - Open the document from Google Docs or from your Google Drive
- At the top right corner of the document, you will see a blue "Share" icon. Select "share".
- A share with others box appears. Select "get sharable link".
- A link to the document will be created, and will appear in the box. Select "copy link".
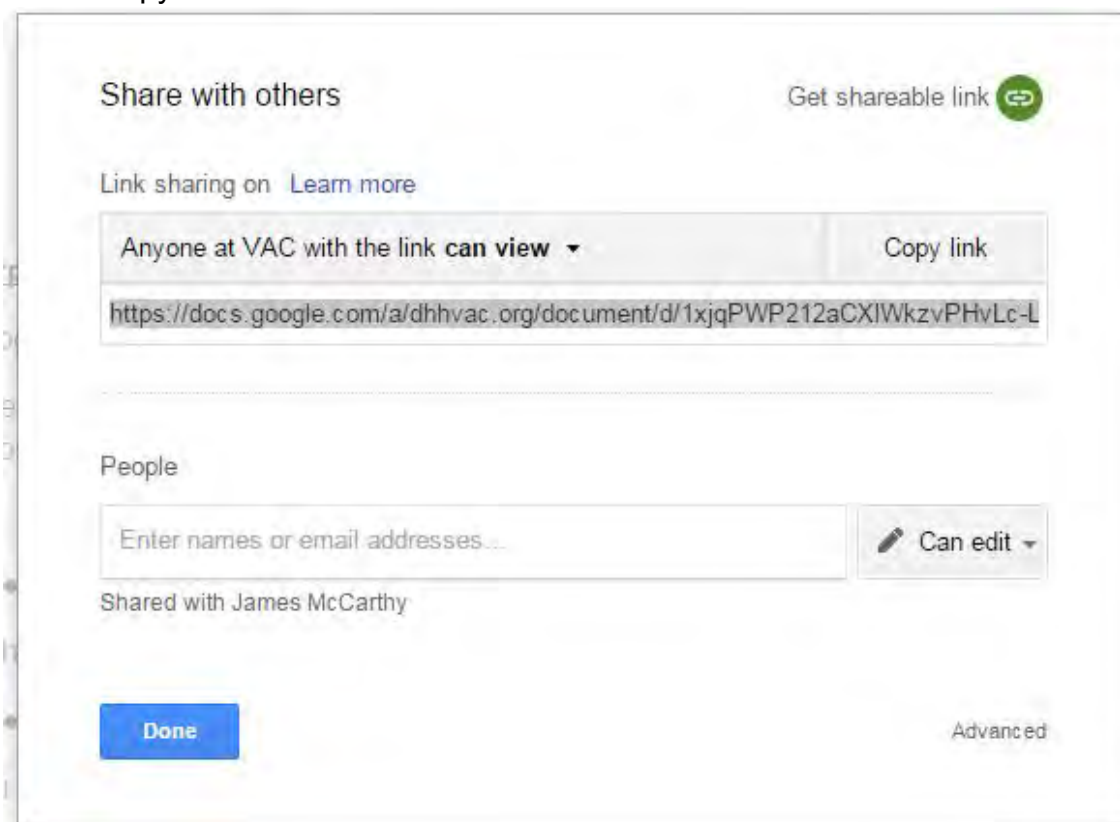
- Now you will be able to designate who you want to share the document with, and, designate if the document should be open for viewing, editing, or comments
  - Select: People at VAC with the link
  - Select: Can view only in the link sharing area
  - Select: Done
- Go to the Google+ Community page and follow the directions to post a link below.

To post a link to an article, Google Doc, Web site, or YouTube video:
- Click on the "What's new with you?" box and click on the "Link" icon. It will pop up a smaller window for the link.
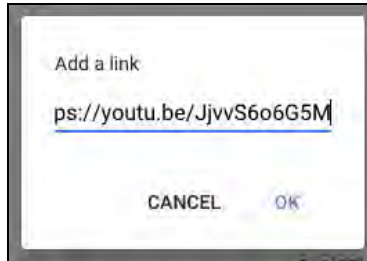
- Copy the link to the article, Google Doc, YouTube video, or website you wish to post on the Google+ page
  - If you wish to post a Google Doc, follow the instructions on the previous page first.
- Add an introductory statement in the "What's new with you?" area.
- Paste the copied link in the "Add a link" box, then click "OK."

- Select the appropriate category for your posting using the blue link at the top of the box, if you have not already done so.
- Click the "Post" button.

Using Google Hangouts

Revised: November 23, 2015

Purpose: Google Hangouts is a tool that allows you to have a group conversation online The DHHVAC uses Google Hangouts for monthly team meetings with participants across the country, and for individual virtual tutoring sessions.

Accessing Google Hangouts:
Option 1: Access through Hangouts Web site
- Log in to your DHHVAC account
- Go to hangouts.google.com.
- Select one of the options: a previous conversation along the right-hand side, or a new video call, phone call, or message.
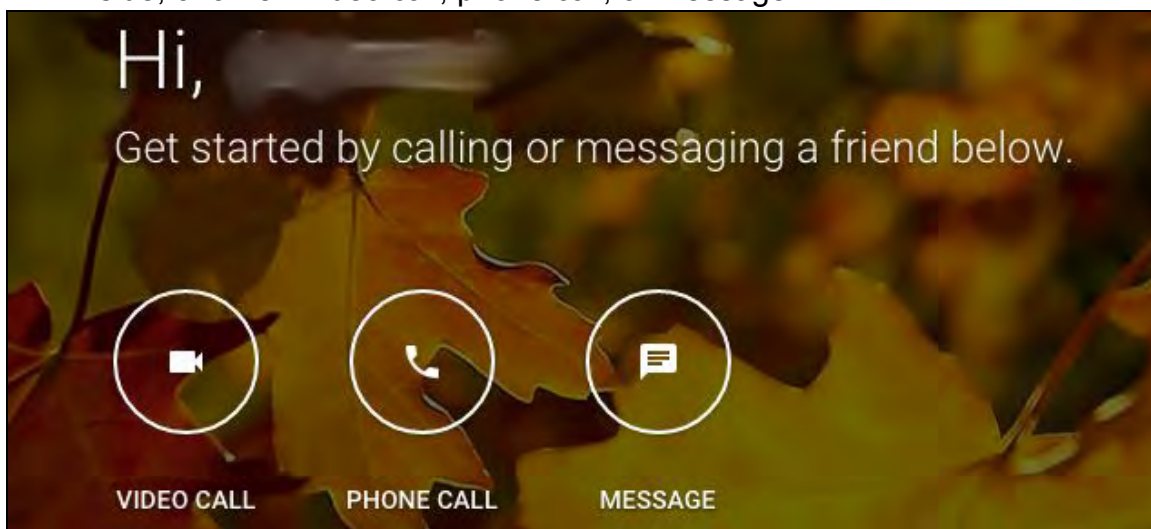
- Video call: You will be asked to name the new Hangout.
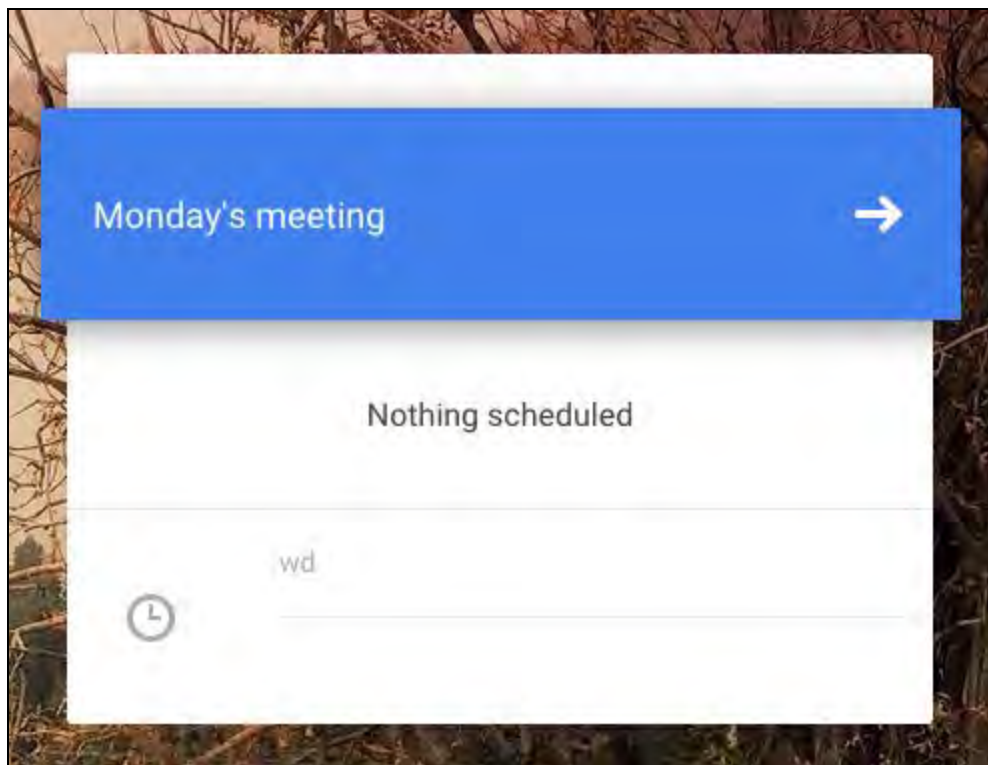
- Click on the arrow on the right. You will then be taken to an active Hangout where you may send invitations to others to join.
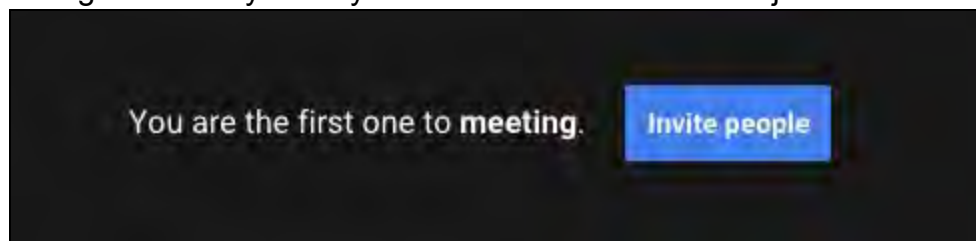
- Clicking on "Invite people" will allow you to enter people's names or e-mail addresses, as well as whether the conversation may be limited only to others within your organization. Changing this setting will enable you to add call recipients from other organizations, the public, or even those who do not have Google accounts.
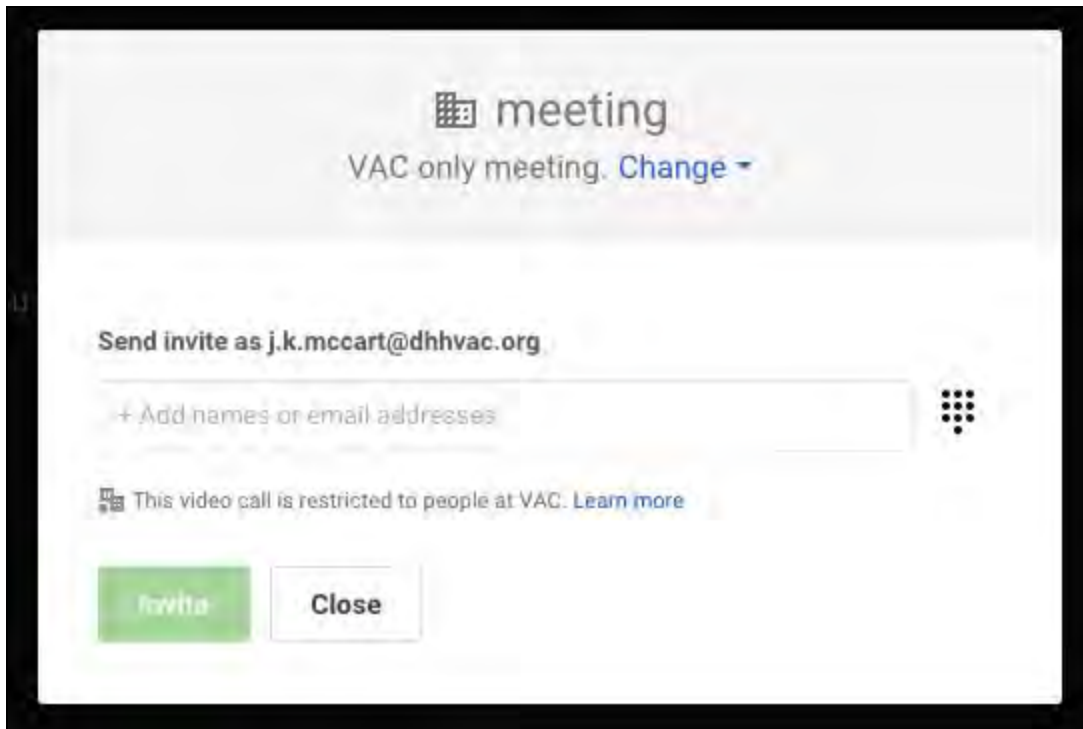
- Once the video call recipient(s) are added, clicking "Invite" initiates the video call.

Option 2: Access through Gmail
- Log in to your Gmail.
- In the left column you will see the hangouts you have previously held
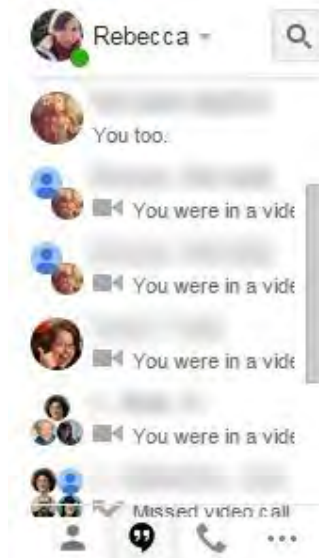
- Option 1: continue a Hangout you already started by clicking on an old conversation.
- Option 2: click the magnifying glass to search for another community member to start a Hangout with.
- Selecting an individual to start a Hangout with will open up a text box where you can message with that individual.
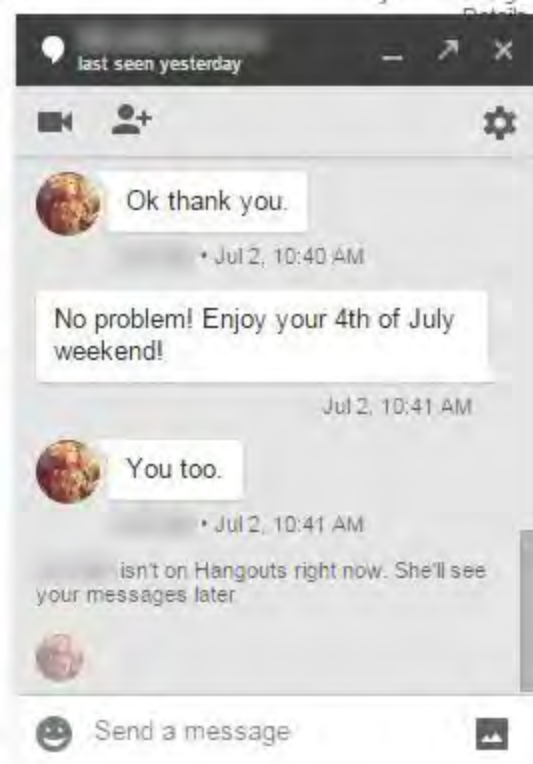
Hangout Details & Options:
- At the top of the Hangout are options to either start a video call or create a group hangout.
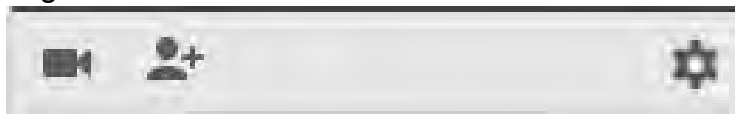
- The icon of the camera starts a video call.
- The icon of the person with a plus sign invites an additional person to the Hangout.

● You can invite people by clicking on the icon and searching for the individual you wish to join the Hangout.
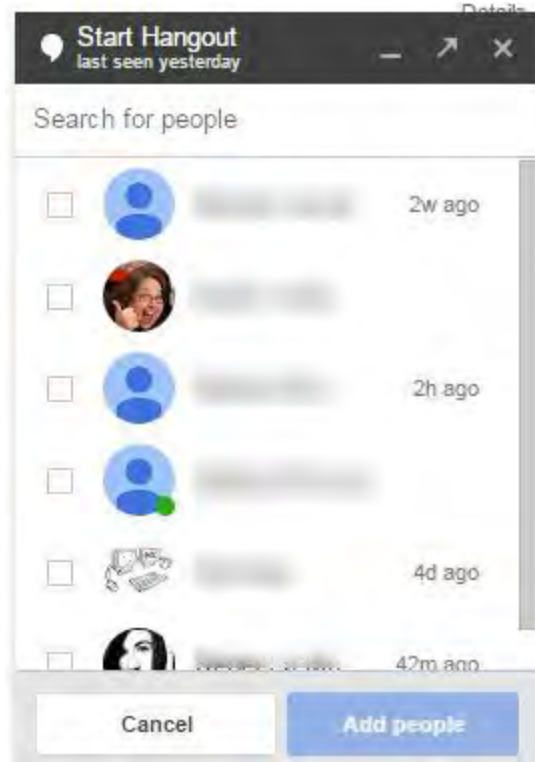
● Then select "add".

<u>**Navigating Video Hangouts:**</u>

Note: During the Hangout, the person speaking will be the person shown in the larger screen

Hangout Options:

Within a Hangout you can (from left to right) invite more people, mute your microphone, turn off your camera, change your bandwidth, change your settings, and end the call.
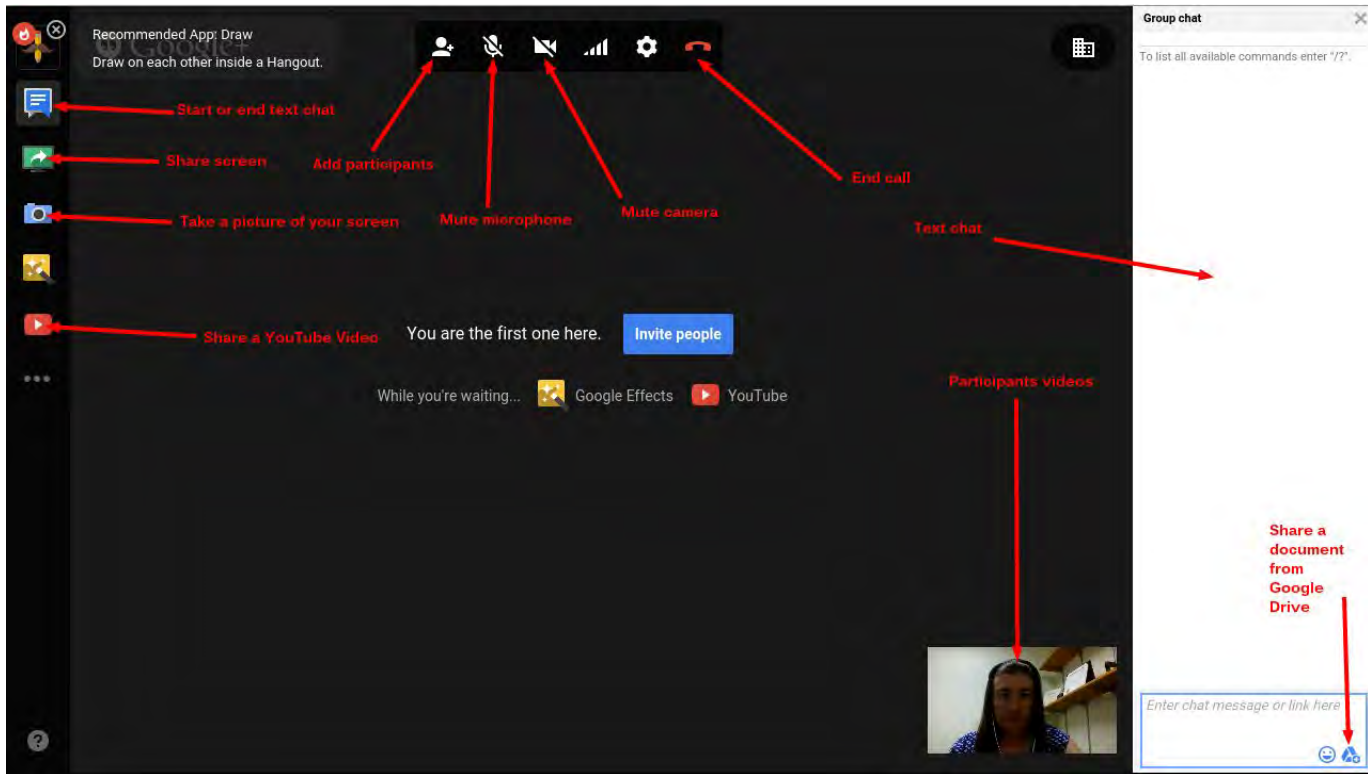
Share your screen:
- ● When in a Hangout you can share your screen with the other participants.
- ● To share your screen click on the green box with a white arrow in it in the left column of the Hangout

- ● When selecting this, it will give you options for how you wish to share your screen
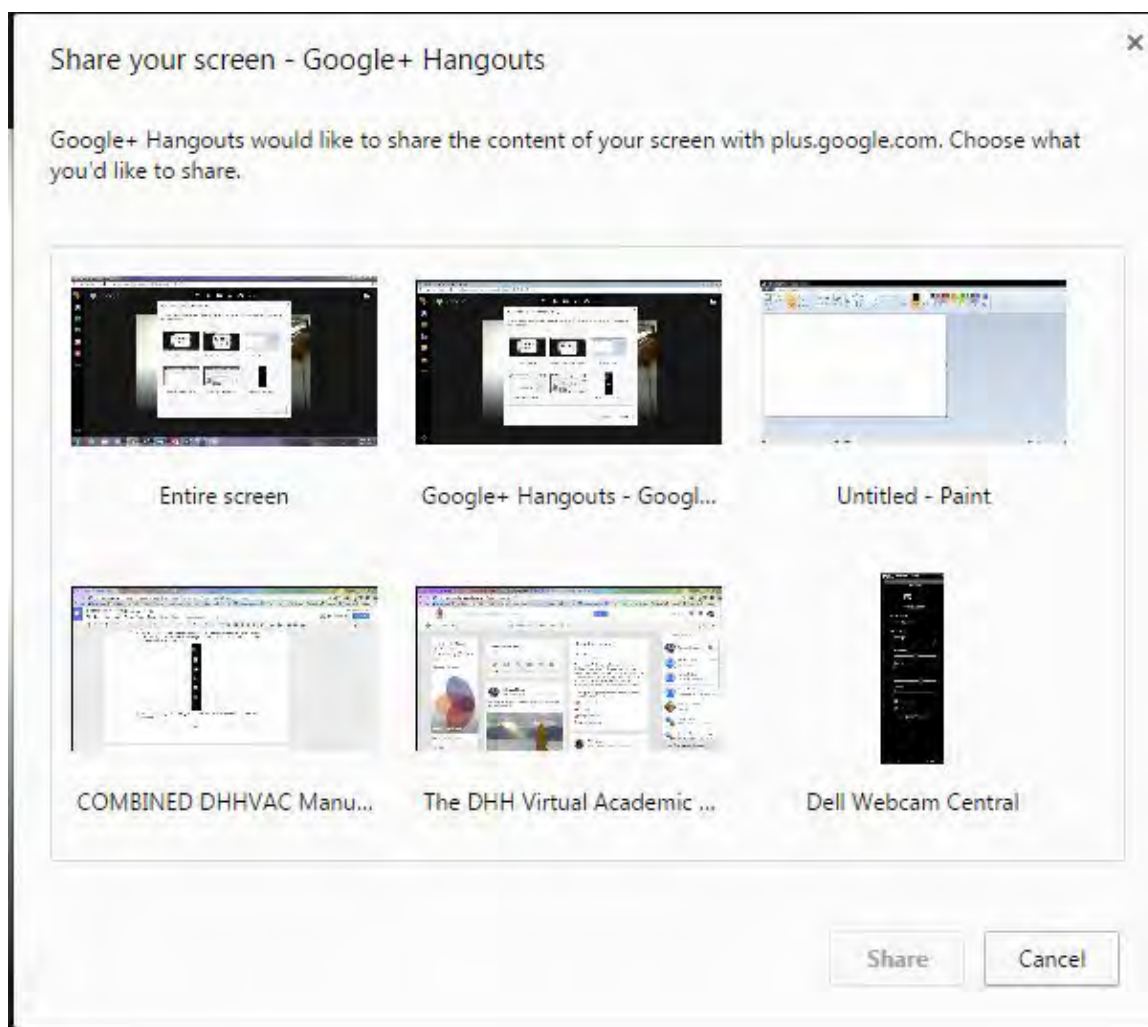
- Select which screen best matches what you want to share
- Click share

Remember: When you share your screen, the video of your face will disappear. If using ASL, you will need to use the Hangouts chat to communicate during this time.

Sharing documents within the Hangout: For the purposes of tutoring, you can share documents into the Hangouts window.

- Open the chat box in Hangouts by selecting the blue speech bubble icon
- Click on the Drive icon in the chat box in the right column
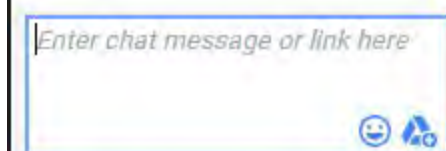
- This will open a new window which will allow you to find the document you wish to share
- Documents that can be shared…
  - Documents saved on your Google Drive
  - Documents shared with you through Google Drive
  - Documents you upload from your computer
- Click on the document you wish to share
- Click select
- A link to the document and a preview will pop up in the chat box
  - *Hint:* It is suggested that participants open a separate window for this document and split their screen so they can view both the Hangout and the document at the same time.

Methods to Encourage Community Participation

Revised: July 16, 2015

- Get personal. Posts need a commentary to develop a connection with the members of the community.
- Use conversational language. Create each post as if you're talking to a friend.
- Problem Solving
  - Present students/tutors/mentors with a problem and ask for solutions.
- Caption This!
  - Give a photo/video/gif and ask for captions for it.
- Fill in the blank statements
  - "My technology must-have is…"
- If-then situations
  - "If I could travel anywhere for research, I would…"
- When-problem situations
  - "When I get stuck on a math problem, I…"
- +1 for option 1, comment for option 2
  - "+1 for mechanical pencils, comment for pens"
- +1 if you do (fill in the blank situations)
  - "+1 if you are taking physics this semester"
- Ask for opinions or take a poll.
- Focus on the members who are actually paying attention. +1 their comments or generate more conversation.
- Pick a theme or hashtag
  - #MotivationMonday or #TriviaTuesday
- Formatting Google Plus posts
  - Make headlines bold and visually appealing
- Create a contest/giveaway
- Personal photos on Fridays - get to know people

Newsletter Ideas

Revised: July 16, 2015

- Include an introduction or follow up at the beginning of each newsletter.
- Develop a template to use that is visually appealing
  - Microsoft Publisher has a variety of templates that are available
- Include your community logo
- Have a section for updates about the project and tutoring/mentoring programs
- Include announcements of new members
- Find interesting articles or topics to link to
- Did you know facts
  - STEM related or Google related
- Include a staff group photo to put names with faces
- Include a staff directory or contact information
- List of resources available to students, tutors, and mentors
- Publish results from any surveys or polls you did on Google+
- Reminder of important events
  - Mentor presentations or meet and greets
- Create a PDF to post on the Google+ page with links functioning

How to Complete User Analytics

Purpose: Completing user analytics will allow you to collect user activity information for your Google+ Community page. It is suggested that you complete your analytics on a weekly basis to keep up with changes in activity to help you make the most out of your posts.

Data Collection:

- Open your Google+ Private Community.
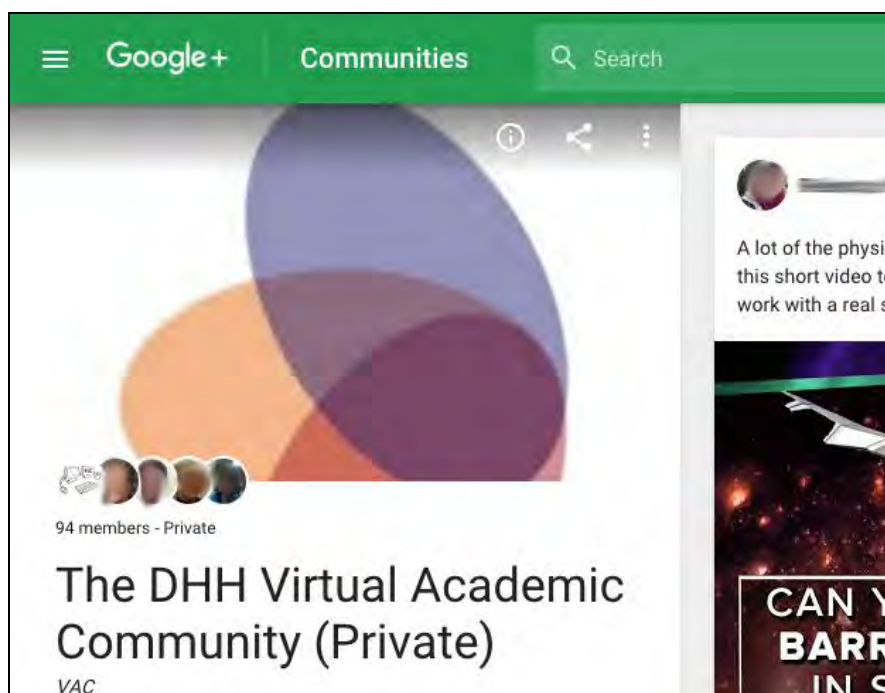
- Create an Activity Log in Google Sheets or Excel
  - Set up multiple pages to fit the needs of what you wish to keep track of
    - Suggested pages:
      - Weekly Activity Summary- keeps track of all activity (email, private community activity, website, and YouTube)

	6/18/2015	6/11/2015	6/4/2015
User Accounts			
Total User Accounts		94	93
Email			
Total Usage (MB)			
Average Mail Use (MB)			
Active (Past 7 Days)		21	16
Private Community			
Student Activity			1
Tutor Activity			0
Mentor Activity			4
Staff Activity			23
Total +1s			14
Total Comments			7
Total Posts			7
Website			
Unique Visitors		157	266
% Returning Visitors		6.7	2.6
Total Page Views		198	333
Youtube			
Views		18	11
Minutes Watched		31	77
Chromebook			
Active (Past 7 Days)			

Monthly Community Data- a summary of activity on Google+ for a month

Private Community	April 2015	March 2015
Student Activity	0	0
Tutor Activity	6	0
Mentor Activity	11	3
Staff Activity	63	34
Total +1s	33	10
Total Comments	19	9
Total Posts	28	18
School	April 2015	March 2015
RIT	56	25
CCC	9	4
Cornell	4	5
Outside	11	3

Weekly Community Data- a summary of the activity on Google+ for a week

Summary	Total	7/16/2015	7/9/2015	7/2/2015
Students	428			
Plus 1s	199		0	0
Comments	131		0	0
Posts	98		0	0
Tutors	724			
Plus 1s	370		0	0
Comments	221		0	0
Posts	133		0	0
Mentors	588			
Plus 1s	313		0	1
Comments	234		0	1
Posts	41		1	0
Staff	1465			
Plus 1s	622		7	6
Comments	378		2	2
Posts	465		6	4
Community	3188			
Plus 1s	1494		7	7
Comments	961		2	3
Posts	733		7	4
School				
RIT			15	11

Template- used to help you count the activity on your Google+ page

		RIT	Camden	Cornell	Outside		Team Totals
	Plus 1s					0	
	Comments					0	
Student	Posts					0	0
	Plus 1s					0	
	Comments					0	
Tutor	Posts					0	0
	Plus 1s					0	
	Comments					0	
Mentor	Posts					0	0
	Plus 1s					0	
	Comments					0	
Staff	Posts					0	0
School Totals		0	0	0	0	Activity	0

Community Totals	
Plus 1s	0
Comments	0
Posts	0

Pages can be created to develop charts and graphs to give a visual for the data you collect.

School Participation
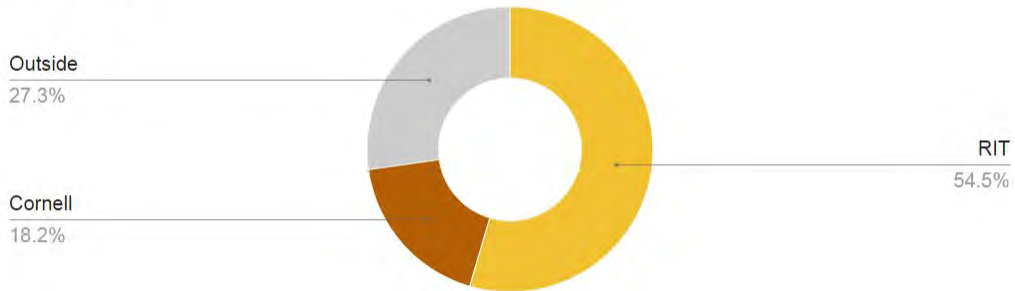
Total Community Activity Comparison
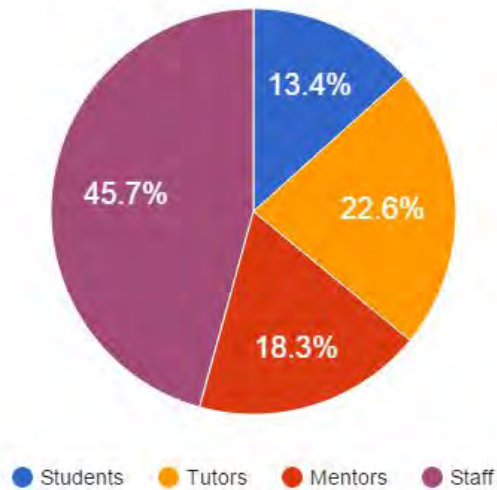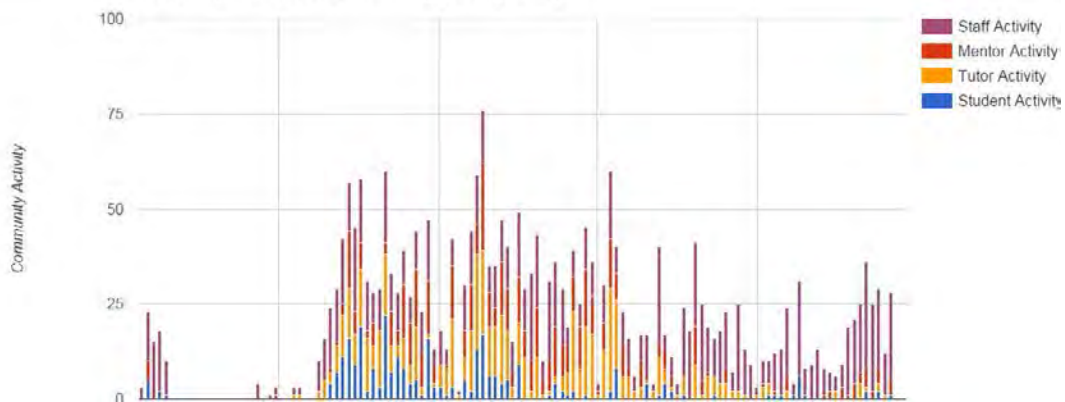
- **Hint:** Split your computer screen and have your Activity Log on one side and your Google+ community on the other side.(To do this, hold tab down and drag it over until it detaches and forms a separate tab.)

- ○ This will allow you to work simultaneously
- ○ It will also put the stream from your Google+ Community in one column and help you keep better track of the activity
- ○ The appearance of the Google+ community may change as you resize that window. This is normal and is intended to allow the page's layout to respond to various possible window or screen sizes.
- Select your template to begin logging the activity on your Google+ Community

		RIT	Camden	Cornell	Outside		Team Totals	
Student	Plus 1s						0	
	Comments						0	
	Posts						0	0
Tutor	Plus 1s						0	
	Comments						0	
	Posts						0	0
Mentor	Plus 1s						0	
	Comments						0	
	Posts						0	0
Staff	Plus 1s						0	
	Comments						0	
	Posts						0	0
School Totals		0	0	0	0		Activity	0

Community Totals	
Plus 1s	0
Comments	0
Posts	0

- ○ Depending on what you wish to analyze, it may be important to keep a participant list with the name, role (student, tutor, mentor, staff), and organization. This is great to refer back to when you are unsure which category to put data in.
- Input your data based off of the activity that has been recorded on Google+ over the past week.
    - ○ You will want to view the post activity of each of the posts on Google+ in order to see all of the activity.
        - ■ This will tell you who used +1 or commented on each post
    - ○ To view the post activity, you will need to click on the post to open it, then click on the link between the body of the post and the comments that says "View activity."
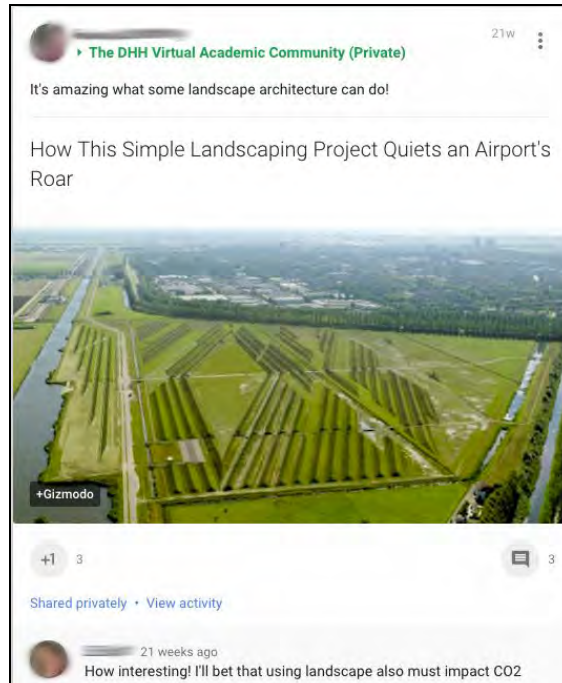
- ○ This will pop up a new window listing all post activity.

- ○ Note that using "view activity" only shows everything once. If a person likes or comments more than once it will only show up once in this list.

- ○ It is important to look at the post activity by opening the post-activity window around as well as counting it manually so you don't miss any additional comments or +1s for comments.
- When finished, transfer your numbers into the appropriate spaces on your Weekly Community Data, Weekly Activity Summary, and (if the end of the month) Monthly Community Data.
- Delete the numbers you inputted in the template so the next time you input data you are starting with a blank template.
- When you have logged all of your information you will want to add new columns or rows to your Monthly community Data, Weekly Community Data, and Weekly Activity sheets. This will allow give you space to complete your user analytics for the following week or month.

Mentor Brochure Example

Establishing a Facebook Group

Rationale

Student feedback in Fall 2015 suggested establishing a Facebook group in order to more effectively maintain contact with project participants. This is bolstered by mentoring research that indicates the importance of "going where the mentee is" (Schwartz et al., 2014), a conclusion that may be generalized to the community as a whole. The expectation is that students will be encouraged to interact more with the community, as well as come into further contact with tutors and mentors.

Privacy considerations

When setting up a Facebook group, there are two privacy considerations.

Group privacy. Facebook offers three basic options for group privacy.
● **Public**: Anyone can see the group, its members and their posts.
● **Closed:** Anyone can find the group and see who's in it. Only members can see posts.
● **Secret:** Only members can find the group and see posts (Facebook, "Manage group settings," October 2015).

IRB restrictions, consent forms, and other similar issues will determine the choice of these three options. In all three cases, means of adding members to the group is strongly encouraged to be by way of becoming Facebook friends with prospective members, then adding them to the group (a process detailed below). However, members can, also in all cases, be added by entering their email addresses (also detailed below).

Personal privacy. The administrators of the group have options for protecting their personal privacy. It is possible to use one's personal profile, but one may also create a professional profile and use that to set up the group; this may be easier in some cases, as in the group-creation process detailed below.

DHHVAC staff universally opted to create professional profiles using organizational e-mail addresses. Aside from privacy concerns, this approach has the advantage of unifying communication methods; notifications will automatically be sent to the organizational e-mail, and that address will be listed on the professional's user profile.
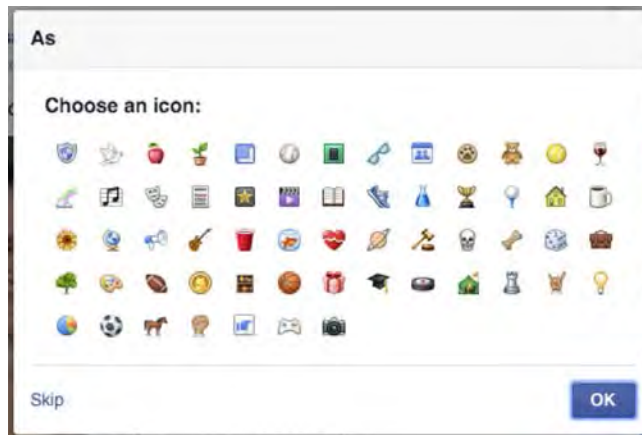
All screenshots in the following documentation were taken from Facebook throughout the month of October, 2015.

Creating the group

- Log in to the Facebook profile you'd like to use to administer the group.
- On your feed home page (check this by looking at the blue bar along the top of the page and clicking "Home"), look in the left-hand sidebar for "Create group" and click on it.
- Enter the name of the group
- Select the desired privacy setting for the group
- **You must add another person as a member to create the group.** This can be done by:
    - Adding a friend you already have
    - Entering an e-mail address that differs from the one you used to create your profile
    - Adding your personal profile
    - When the group is created, you can remove the other member from the group. The group will persist as long as there is one member; i.e., you.
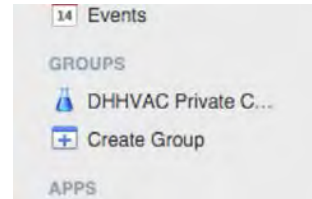
- Select an icon that is thematically appropriate. This icon will appear in the left-hand sidebar of your feed home page with the name of the group in the "Groups" section.

- You will then see the home page of your new group. Facebook offers several easy ways to begin customizing your group.
  - You can select a large photo for the top banner.
  - You can add a description of the group and its purpose.
  - You can begin adding members—either friends you already have or e-mail addresses.
    - If your group privacy settings are set to either "Public" or "Closed," non-members can place a request to be added.
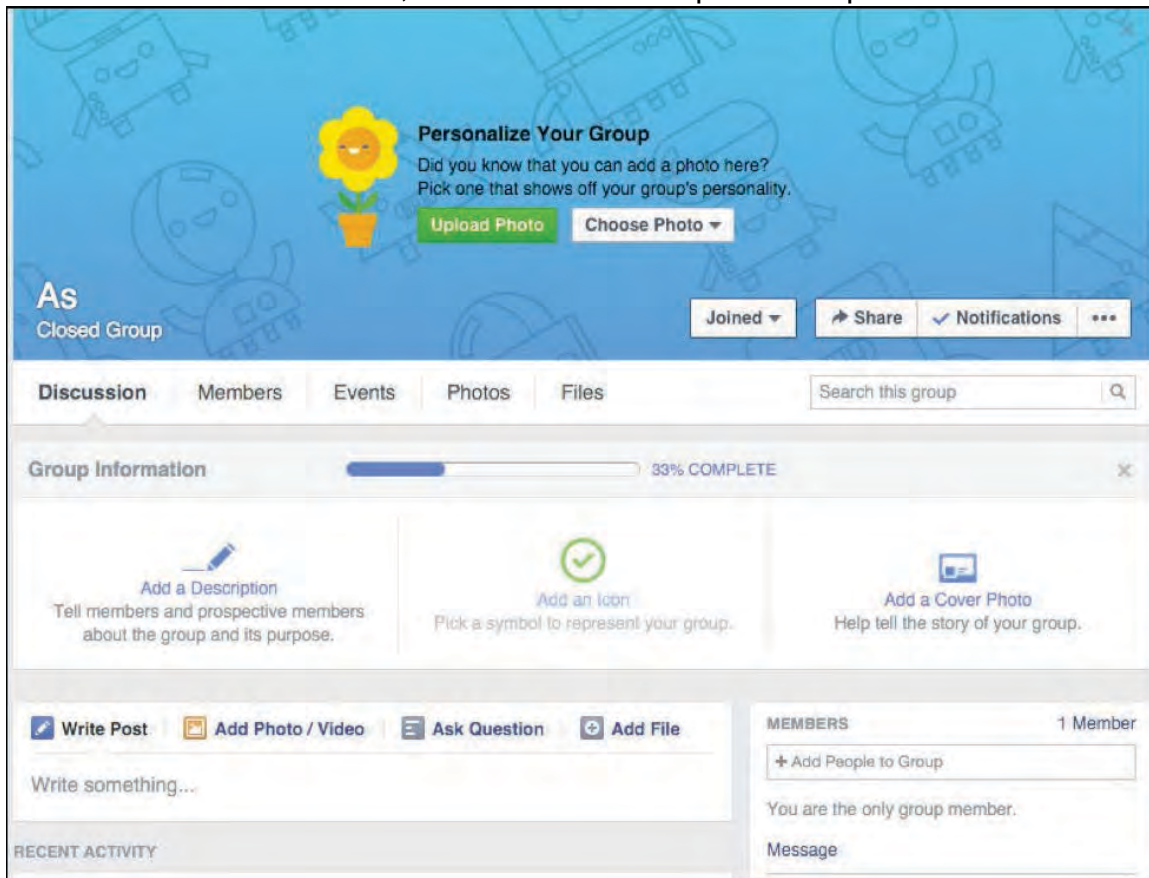
Managing the group

Group management is user-friendly and can be done from the menu bar located on the top banner of the group's main page; the relevant button contains three horizontal dots, and when opened, the menu drops down.
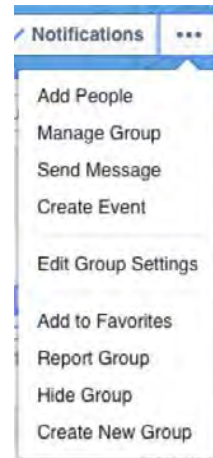
The two primary options for group management are:
● Manage group (Accepting or rejecting new-member requests, completing group information, managing posts that have been reported to administration for violating group policies as set out in the group description, and notification management)
● Group settings (see below)

The other options appearing in the menu are largely specific events: inviting new members, sending a message to a group member, creating an event for the group, and other actions for individual administrators to take.

Group content

Along with the group's feed—to which members may post as easily as they do to their own Facebook Walls—members can also post photos, videos, and other files to share with group members.

Photos are uploadable only after an album is created, although videos do not require albums for upload:


Clicking "Create Album" will open a file-browser window that allows you to select a photo file from your computer for upload, which will then open a new window for album management and further photo uploads.
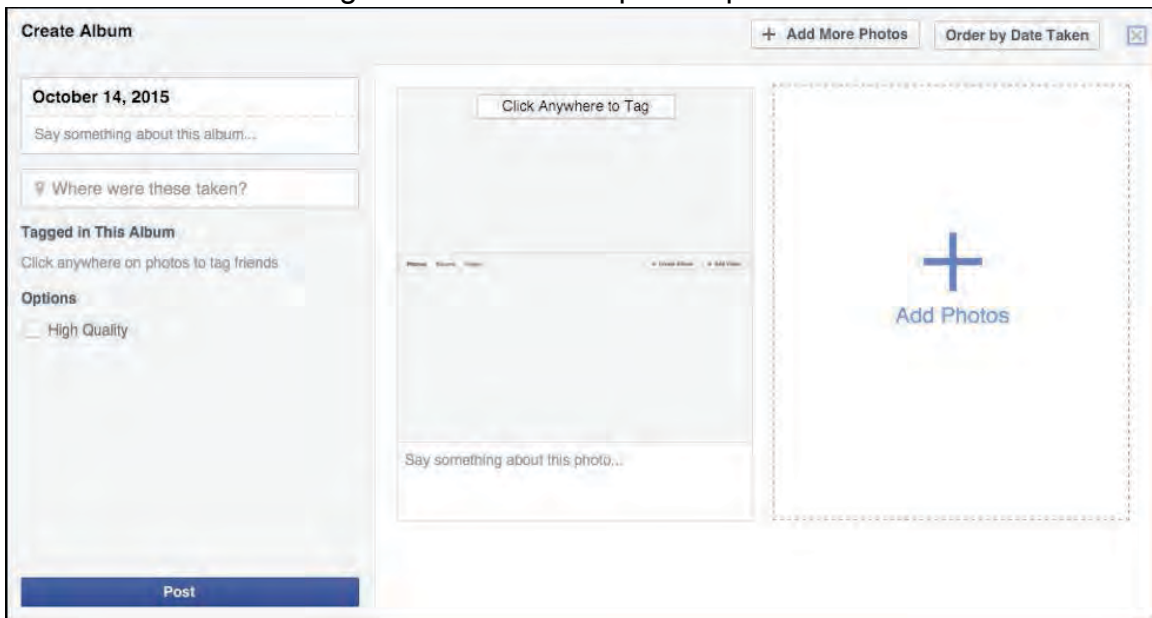
Once you have completed this process, a new status update will appear in the group's main feed that notifies users that an album has been added, and new photos uploaded.
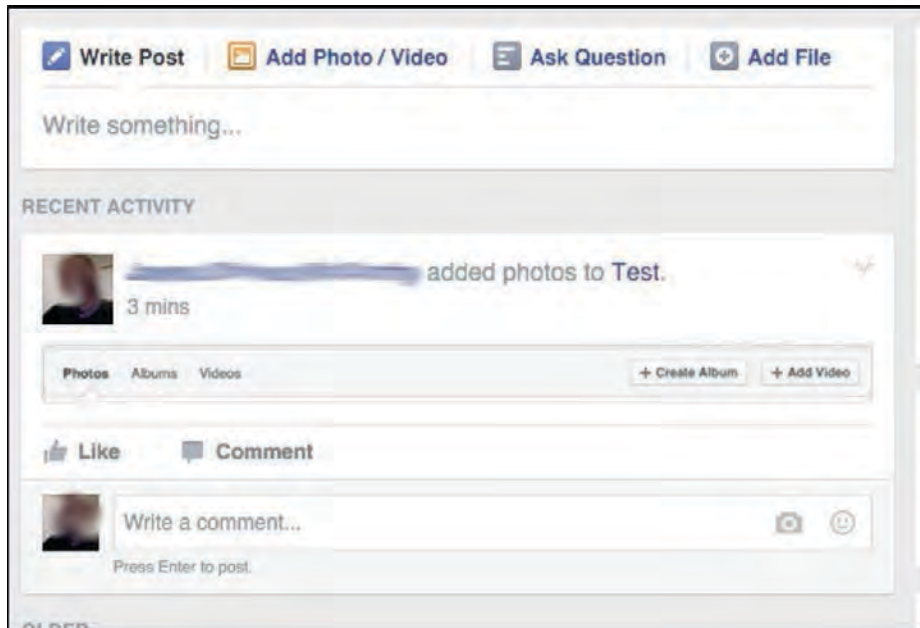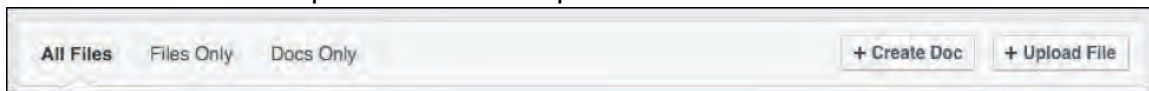
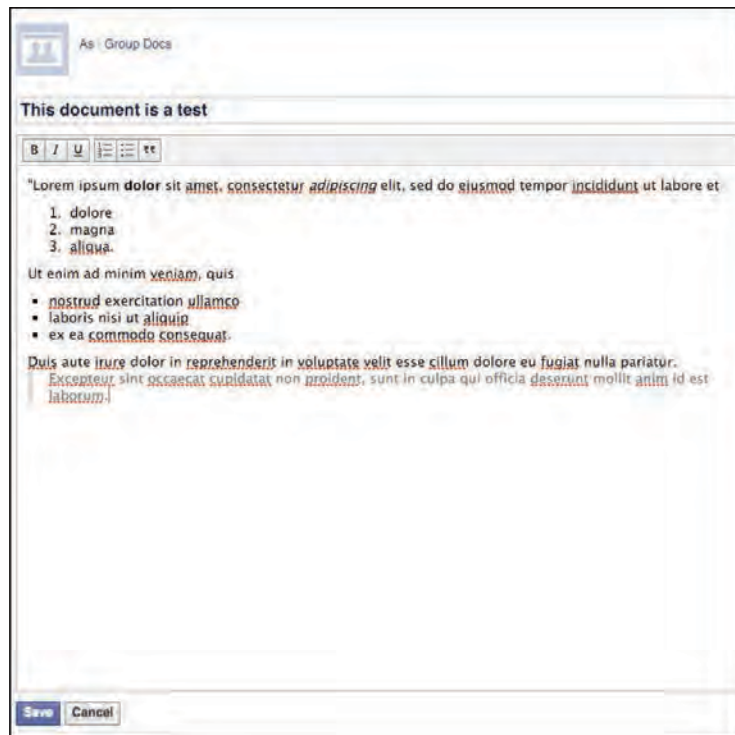**Files** function similarly, although:
- Facebook offers a dedicated document creator and editor
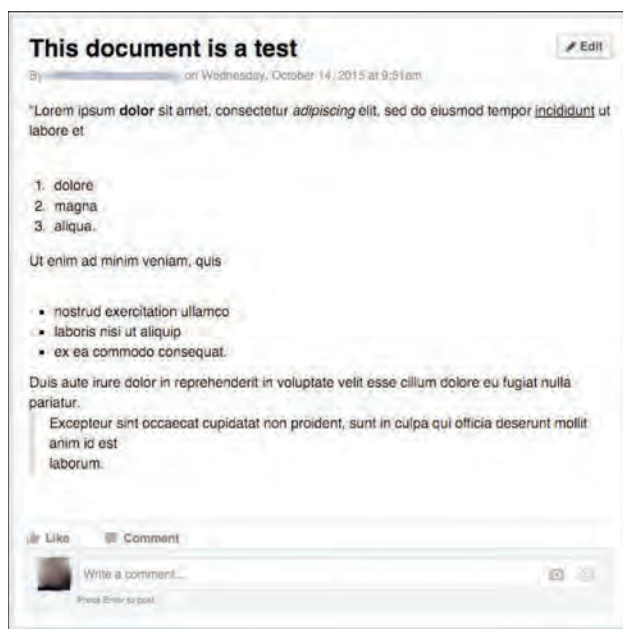- Files do not require albums for upload

Clicking on "Create Doc" yields an empty text field with basic formatting options:

The saved document appears as formatted text in a Facebook post or "Note."

This also appears in the main feed of the group.

Members may also be managed; administrators can either select members to become administrators, or remove a member for various reasons. Members themselves can voluntarily leave the group at any time, but they can also be removed by administrators. To do this, a visit to the members page by an administrator will offer the ability to exercise either option.
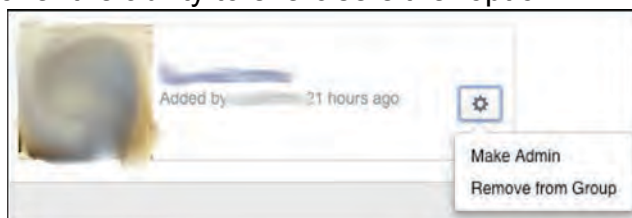
Managing policy

As may occasionally occur in groups of individuals pursuing a common goal in their own ways, friction may arise. Usually the parties involved will work things out on their own, but other times, they may appeal to a higher power.

In a Facebook group, the higher power is the administrator(s), known to Facebook as "admin(s)." Admins may be called upon to resolve disputes, adjudicate cases of harassment, or moderate debates among members. This may be solved via public discussion, private messaging, or unilateral administrative action (e.g., removing offensive posts or offending users).

With that in mind, it should be said that managing a cohesive Facebook group requires, at minimum, an understood code of conduct. This is easier with a professional group or a community of practice, but in less-formal settings, a clear outline of appropriate behavior—as well as clearly-delineated consequences for violations of established norms—is advisable.

Works cited

Schwartz, S.E., Rhodes, J.E., Liang, B., Sanchez, B., Spencer, R., Kremer, S., & Kanchewa, S. (2014). Mentoring in the digital age: Social media use in adult-youth relationships. *Children and Youth Services Review, 47*, 205-213.

Contributors

The DHHVAC would like to give thanks for the completion of this manual to the following contributors:

Lisa Elliot
Principal Investigator

Donna Easton
Research Assistant

Jonathan MacDonald
Graduate Student Assistant

Benjamin Rubin
Manager, VAC

Rebecca Murray
Manager, VAC

James McCarthy
Manager, VAC