Providing Remote STEM Tutoring to Deaf/Hard-of-Hearing Students Using Google+ Hangouts

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Presentation Agenda

• Overview of the Deaf STEM Community Alliance project
• Remote tutoring experiences using Google+ Hangouts
• Using Google Drive for document management and collaboration with colleagues
Who We Are

• Deaf STEM Community Alliance
  – Only Alliance specifically for D/HH students
• Supported by the National Science Foundation, HRD #1127955
• Multi-year project (Sept 2011- Aug 2017)
  – Now in our 4\textsuperscript{rd} year
RIT is the lead institution for this project, with Camden County College and Cornell University as partners.
Challenges Addressed by the Alliance

• Need to add more STEM graduates
• Broaden participation of underrepresented groups in STEM, especially those with disabilities, and, in particular, those who are deaf or hard-of-hearing
• Create more cohesive cyber learning resources for students, faculty, and support service providers
Barriers to Success in STEM

- Student Preparation
- Socialization
- Accessible Media
Goal and Objectives

Goal – Build a model virtual academic community (VAC) that will increase graduation rates of D/HH STEM majors in postsecondary education in the long term

Objectives—
1) Document and disseminate a description of the process of creating the VAC to create a scalable model that could be adopted by others
2) Increase GPAs and retention rates of D/HH students in STEM majors
Model Building

• Incremental (adding components gradually)

• Iterative (modifying model based on consumer and evaluation feedback)

(Cockburn, 2008)
Model Infrastructure

- Google Apps for Education (Enterprise) Account (@dhhvac.org)
- Deaf and Hard of Hearing Virtual Academic Community (DHHVAC)
- Website (www.dhhvac.org)
- YouTube Video Library (www.youtube.com/user/dhhvac)
Model Infrastructure
Components

• Communication

• Dissemination

• User Analytics
Communication Infrastructure
Google Apps for Education (Enterprise) Account

- Google + Private Community (Social Media)
- E-mail
- Chat (Text)
- Hangouts (Video, Text, Document Sharing)
DHHVAC Model
Barriers & Strategies

Student Preparation
Remote Tutoring
Remote Mentoring
Using G+ Hangouts

Remote Mentoring
Peer-to-Peer Interaction
Using G+ Private Community

Socialization

Accessible Media
Accessible STEM Information
Using Website,
G+ Private Community,
& G+ Public Page
Tutoring Models

- Same Vicinity: Faculty Tutors + Students
- Different Vicinities: Grad Student Tutor + Students
- Different Vicinities: Adjunct Tutor + Students
- Same Vicinity: Undergrad Student Tutor + Student
Remote Tutoring FAQs:

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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<tbody>
<tr>
<td>Based on RIT/NTID faculty-student face-to-face tutoring</td>
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Experience Using Google+ Platform

• Part I: Initial Project Focus: Best features Google+ Hangouts offer for conducting remote tutoring

• Part II: Leveraging Google Drive app for document management and collaboration with colleagues
Part I: Advantages of Remote Tutoring using Google+ Hangouts

• Interface allows flexibility in communication

• Accommodating to schedules (faculty and student)

• Google+ Apps that enhanced online tutoring
  – Google Drive: Document Sharing
  – Google+ Screenshare feature
Part I: Advantages of Remote Tutoring using Google+ Hangouts

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Google+ Hangouts: Communication Flexibility

• Versatility of interface allows RIT/NTID faculty to structure sessions similar to face-to-face tutoring
  – Video feeds for both users
  – Microphone capability
  – Chat feature capability
Starting a Google Hangout

Google

One account. All of Google.

Sign in to continue to Google+

A Gehret
a.gehret@dhhvac.org

Password

Sign in

Need help?

Sign in with a different account
My Google+ Homepage