



The DHHVAC: A Virtual Academic Community for Students Who Are Deaf or Hard of Hearing

Lisa Elliot, James McCarthy & Rebecca Murray

Rochester Institute of Technology

National Technical Institute for the Deaf

Presentation for Onondaga Community College, July 12, 2016



Overview

- Who we are
- Rationale for the project
- Description of infrastructure components
- Participants & Recruiting strategies
- Academic community activities
- Q & A
- Opportunities for collaboration



What is the DHHVAC?

- DHHVAC=Deaf and Hard of Hearing Virtual Academic Community
- 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 5th year

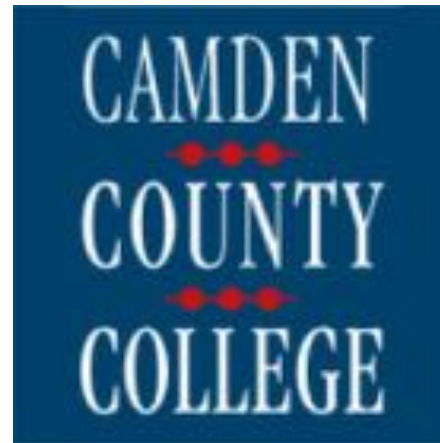




Campus Partners

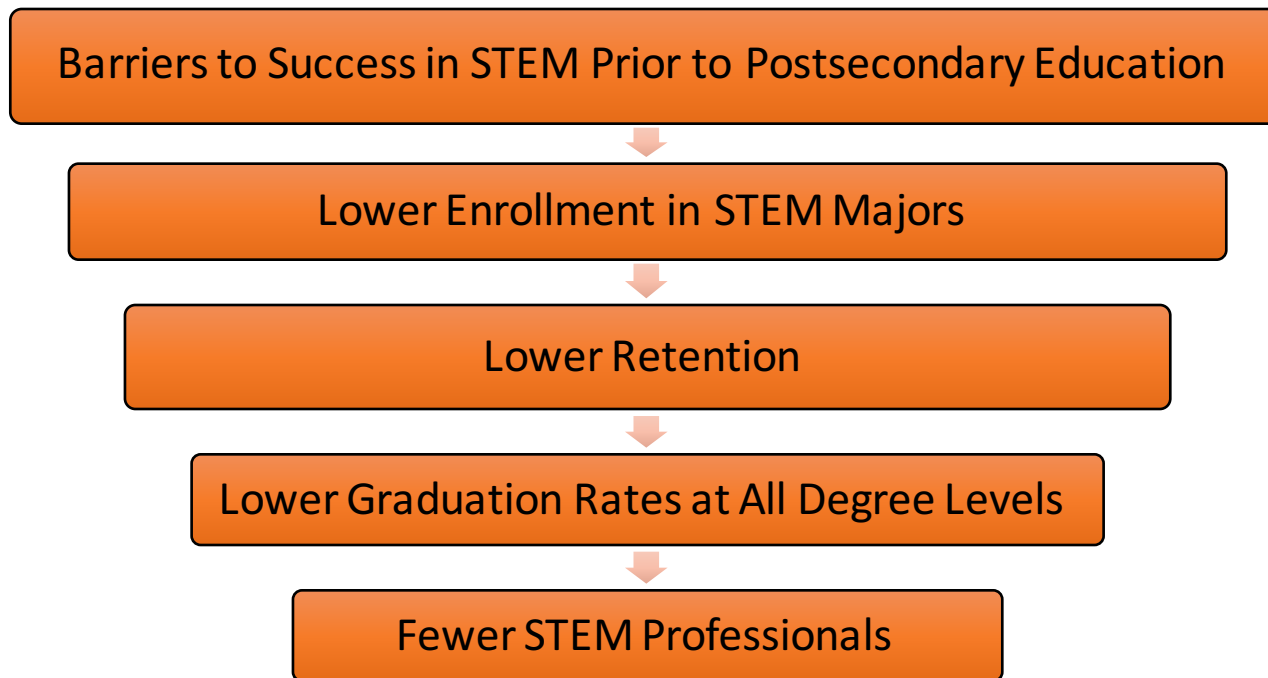


RIT is the lead institution for this project, with Camden County College and Cornell University as partners.





Narrowing the “Participation Gap”





Goal and Objectives

- Goal:
Create a *model* virtual academic community to increase the graduation rates of postsecondary D/HH STEM majors in the long term
- Iterative and incremental (Cockburn, 2008)
 - Iterative – testing what works and revising what doesn't
 - Incremental – building model in stages instead of all at once



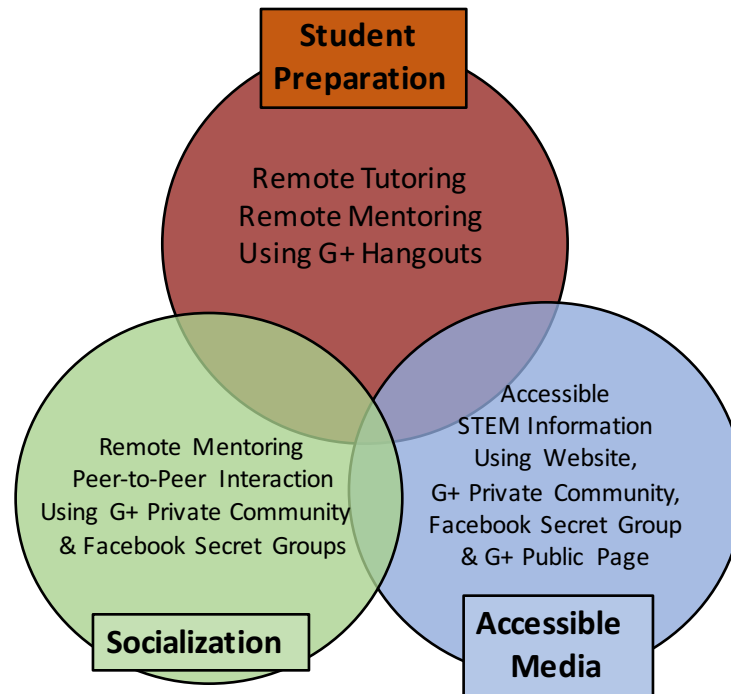
Goal and Objectives

Objectives

- 1) Document and disseminate a description of the process of creating a model VAC for replication
- 2) Increase the GPAs and retention rates of D/HH students in STEM majors



DHHVAC Model Barriers & Strategies



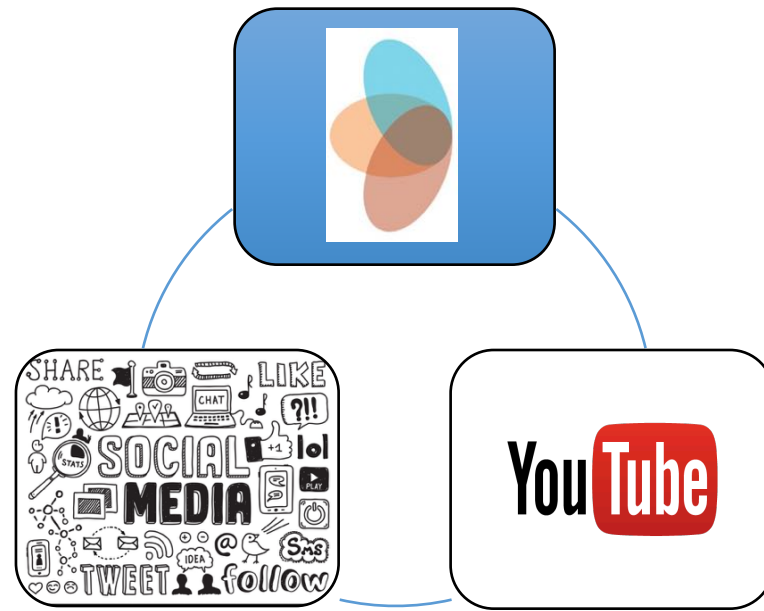


Communication Infrastructure





Dissemination Infrastructure





Participants & Recruiting Strategies

Participant Role	Lifetime Number of Participants	Hearing Status	Recruiting Strategies
Students	44	All D/HH	Tutors, Disability Service Offices, Advisors, Personal Contacts, Exhibits, Other Campus Projects & Offices
Tutors	15 +1 staff member	D/HH & Hearing	Dept. Chairs, Individual Contacts, Campus Presentations
Mentors	17	All D/HH	Recommendations from Administration, Alumni, Personal Contacts, Exhibits & Conferences, Social Media
Staff	13	D/HH & Hearing	



Remote Tutoring

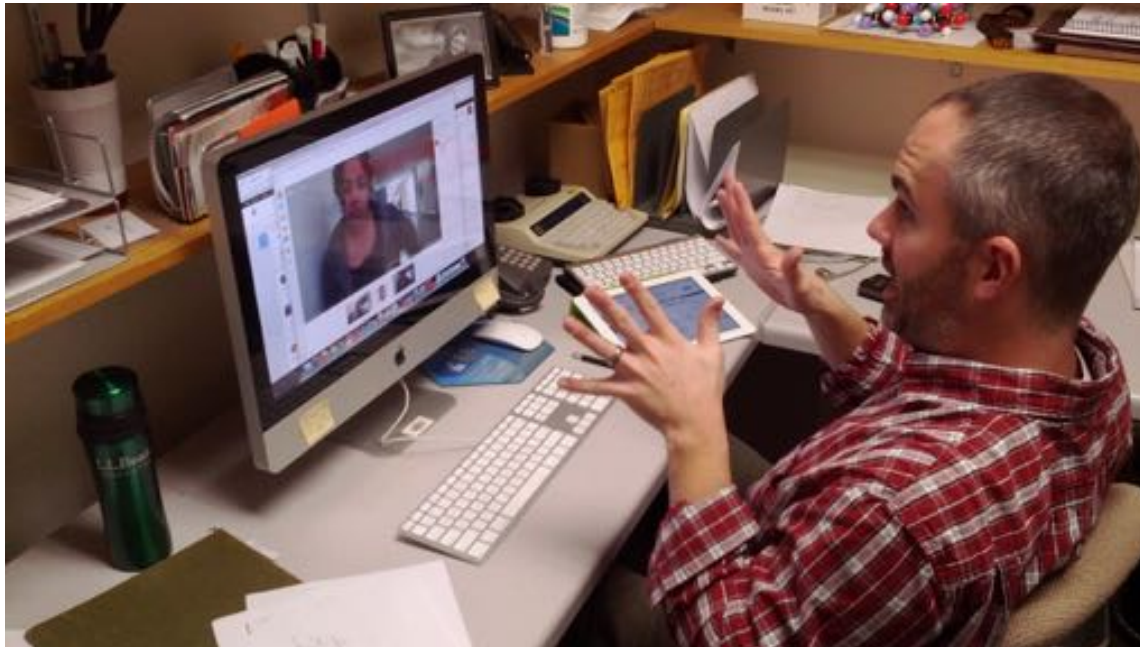


Photo of student receiving tutoring. Student is seen on computer screen, tutoring professor pictured sitting at his desk in front of the computer.



Remote Tutoring

- Online tutoring overview
- Lessons learned from the DHHVAC
- Role of the coordinator
- Software choices and alternatives





What Do Deaf and Hard of Hearing Students Need in Tutoring?





Tutoring Models

Model 1:
Same Vicinity:
Professional Tutors &
Students

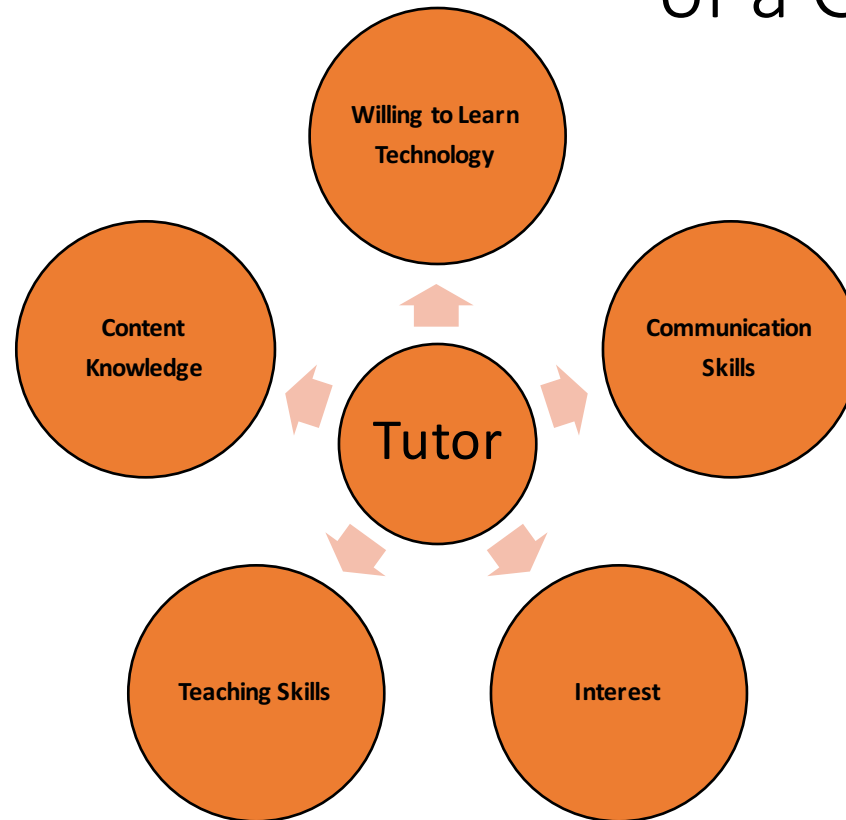
Model 2:
Different Vicinities:
Grad Students Tutors
and Students

Model 3:
Different Vicinities:
Adjunct Tutors +
Students

Model 4:
Same Vicinity:
Undergrad Student
Tutors & Students



What Are the Characteristics of a Good Tutor?



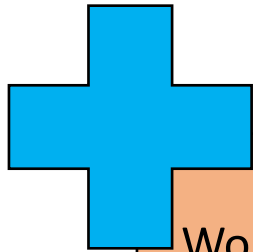


What Happens During Tutoring?





What Are the Benefits & Challenges?



Work from any location

Extended tutoring hours & availability

Professional development

Scholarship

Access to qualified tutors

Institutional policies

Incentives & budget

Recruitment

Participation



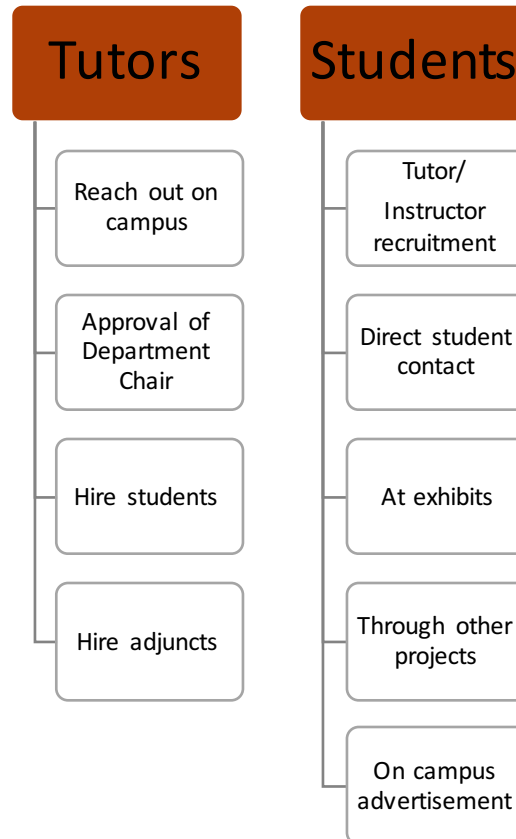


What Would My Role Be?





How Can I Recruit Participants?



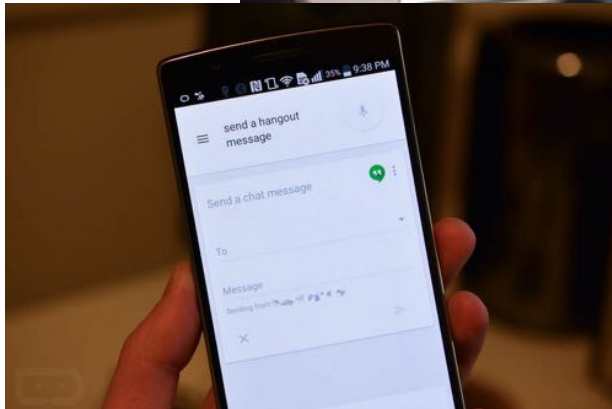
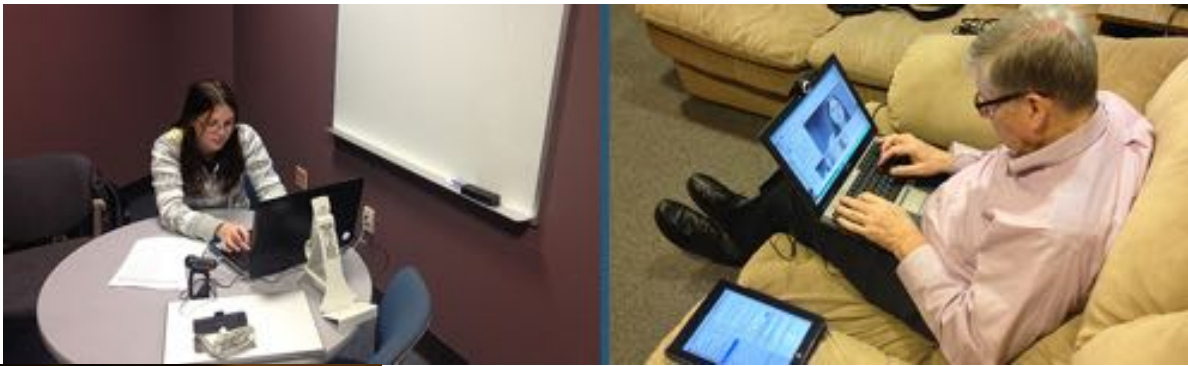


What About Software?





How Else Could I Use This Technology?



- Remote intake appointments
- Chat message reminders directly to phone
- Meet with students when you attend conferences
- Make a library of virtual presenters





Remote Mentoring in the DHHVAC





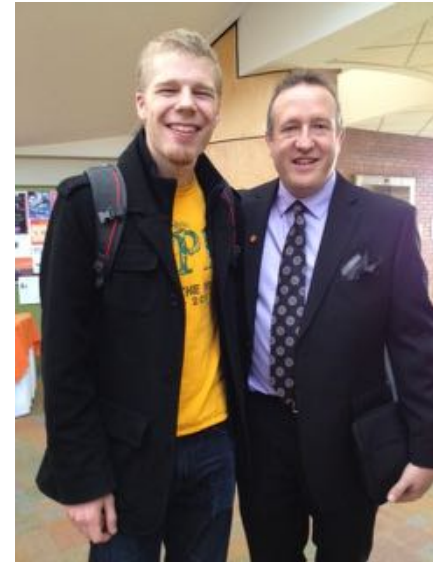
DHHVAC e-Mentoring Model

- Mentors are few, far between, and busy
 - Solution: remote mentoring (de Janasz & Godshalk, 2013)
 - 'Go where the mentees are': online (Evans & Forbes, 2012)
- Scalable, affordable, and adaptable
 - Modular, open-source, and applicable to a wide variety of population groups and organizational structures



Mentorship Functions

- Support (Ensher, Heun, & Blanchard, 2003)
 - Career development (academic/vocational)
 - Personal development
- Role modeling





Role Modeling in the DHHVAC

- Effect on mentoring relationship
 - Student may be overwhelmed or hesitant
 - Student may be proud to correspond
- Effect of computer-mediated communication (Ensher, Heun, & Blanchard, 2003)
- Traditional mentors as role models have a positive effect on eventual job satisfaction for mentees (Ensher, Thomas, & Murphy, 2001)
 - As opposed to peer or step-ahead mentors



The DHHVAC Mentors

- Selected from a broad range of disciplines
 - Accounting, animal science, architecture, biology, biochemistry, biophysics, bioengineering, biotechnology, civil engineering, ecology, industrial engineering, information technology, materials science, structural engineering, user-experience design, Web development
- Recruited through a variety of channels
 - Professional Facebook group for deaf and hard of hearing (D/HH) STEM professionals
 - Alumni Association
 - Word of mouth
 - Previous participants in other roles (e.g., participating student)
- About half are RIT/NTID alumni; all are volunteers

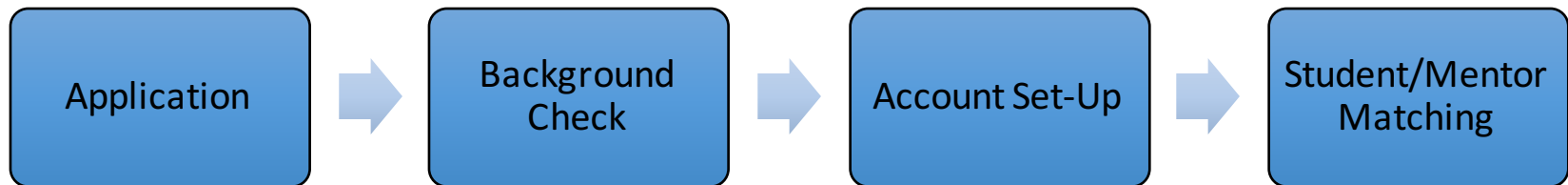


Role of the Mentorship Coordinator

- Recruits mentors and mentees
- Matches mentor/mentee dyads
- Develops and documents program structure and processes
 - Roles
 - Expectations
 - Facilitation (Single & Single, 2005)
- Adapts to new technological solutions and implements as needed
- Responds to mentor/mentee concerns and seeks solutions



Mentor Intake Process





Student-Mentor Matching Considerations

- Student major & mentor occupation
- Student request based on interests or projects
- Demographic similarity
- Communication preferences (e.g., knowledge of sign language, preference for using voice)
- Technology preferences (e.g., email, Hangouts, FaceTime)



Collaborations & Accomplishments

- Architecture
 - Architect and student corresponded on redesign of NTID lobby and associated spaces
- Engineering
 - Student corresponded with two mentors (industrial design and biotechnology) to develop a project for an annual innovation competition
- Biology
 - Mentor named one of NPR's "50 Greatest Teachers"





Benefits

- Individual
 - Intergenerational continuity
 - Future collaborative relationship development
 - Number of colleagues in the field increases
- Institutional
 - Alumni maintain relationship with alma mater
 - Increased academic performance within a cohort
 - Increased retention rates within underrepresented populations
 - Increased graduation rates

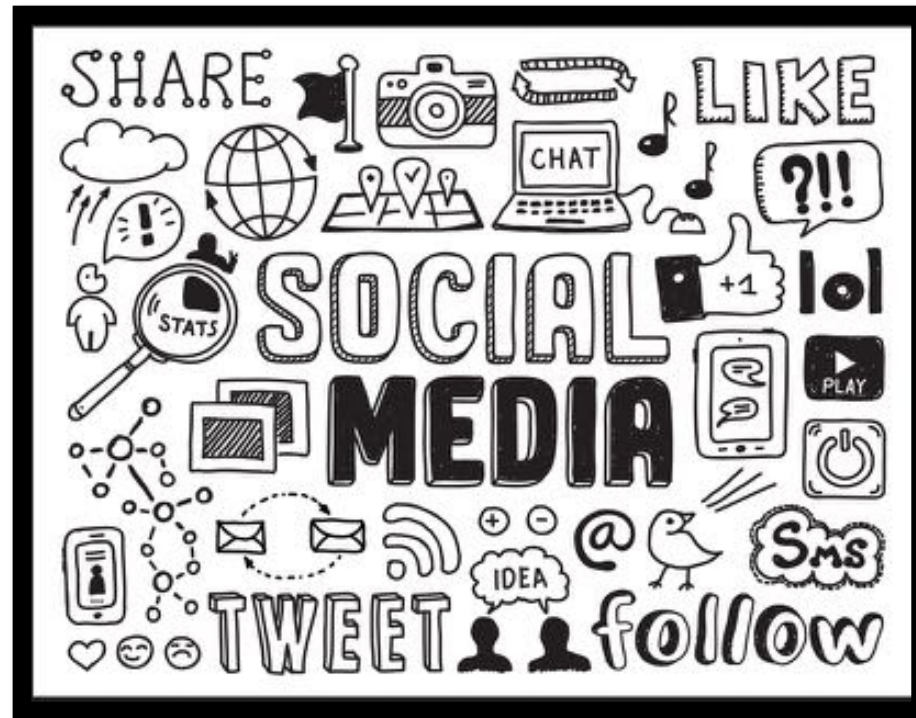


Conclusions

- Underrepresented populations need effective role models
- Individual students may need individual support
- Mentorship is one solution
- The DHHVAC is a model that attempts to implement this solution
- Matching is key to the program's success
 - Far more complicated than it appears
- Intergenerational cooperation and support can further personal and institutional progress



Social Media in the DHHVAC





Social Media Platforms

Private & Public



Private Only



Public Only





Social Media

This is an example of a post within the G+ private community.





Social Media Functions

- Mitigate social isolation
- Peer-to-peer (community) interaction
 - STEM articles of interest
 - Share student schedules
 - Announcements (events, internships, scholarships)
- Remote Mentoring
 - Open forum for mentors to provide 1-to-many mentoring in forms of
 - Information sharing (e.g., pictures of work)
 - Job opportunities
 - Offers for assistance



Social Media: Lessons Learned To Date

- Someone to facilitate engagement
 - Encourage through personal contact
 - Frequent posting (3-10 posts per week)
- Critical mass of participants
 - Started Google+ Private Community with about 25 participants (January, 2013)
 - Activity increased with approximately 55 participants (September, 2013)
 - Current membership: 74 participants
- Platform reputation is important!
 - Facebook added in October 2015
 - Current membership: 28 participants



Accessible Media

The screenshot shows a web browser displaying the homepage of 'The Deaf and Hard of Hearing Virtual Academic Community'. The browser's address bar shows the URL 'www.rti.edu/~vacc/'. The website header features the RIT logo and the title 'The Deaf and Hard of Hearing Virtual Academic Community'. Below the header is a large image showing two individuals, one using sign language and the other using a laptop. The main content area includes a navigation menu on the left with links for Home, Accessibility, About Us, Reference Library, Gallery, and Contact Us. The main text area contains a welcome message and an announcement dated 2013-05-06.

RIT Rochester Institute of Technology
The Deaf and Hard of Hearing Virtual Academic Community

The Deaf and Hard of Hearing Virtual Academic Community

Welcome to the Deaf and Hard of Hearing Virtual Academic Community (VAC) hosted by the Deaf STEM Community Alliance! Supported by the National Science Foundation (HRD-1127955), the National Technical Institute for the Deaf at Rochester Institute of Technology, Camden County College, and Cornell University are constructing an on-line community to support the learning needs of students who are deaf and hard-of-hearing in the areas of science, technology, engineering, and mathematics (STEM).

Announcements

2013-05-06

Thanks to everyone who visited us at Imagine RIT! Just in case you missed it, we were even featured on local TV!



Accessible Media

- Curated STEM Resource library on our public website:
www.dhhvac.org
 - Project publications and presentations
 - Relevant work by others
 - STEM ASL dictionaries (e.g., ASL-STEM Forum)
 - Links to accessible STEM resources (e.g. Khan Academy, Math for College)
- STEM-relevant articles and videos in FaceBook and Google + Private communities



Accessible Media: Lessons Learned To Date

- Web site
 - “Grand plan” design comes first
 - Accessibility challenges
 - Regular promotion
- Importance of being assertive!
 - Not all videos are captioned
 - Sometimes, captioned versions are available, but haven’t been posted



Contact information

Lisa Elliot, PI

lisa.elliott@rit.edu

James McCarthy, DHHVAC Manager

jkmnod@rit.edu

Rebecca Murray, DHHVAC Manager

rlmasc@rit.edu

<http://www.dhhvac.org>



Select References

- Cockburn, A. (2008). Using both incremental and iterative development. *Crosstalk: The Journal of Defense Software Engineering*, (May 2008), 27-30.
- Dawson, P. (2014). Beyond a definition: Toward a framework for designing and specifying mentoring models. *Educational researcher*, 43, 137-145.
- Ensher, E., Heun, C., & Blanchard, A. (2003). Online mentoring and computer-mediated communication: New directions in research. *Journal of vocational behavior*, 63, 264-268.
- Ensher, E., Thomas, C., & Murphy, S. (2001). Comparison of traditional, step-ahead, and peer mentoring on Protégés' support, satisfaction, and perceptions of career success: A social exchange perspective. *Journal of business and psychology*, 15, 419-438.
- Evans, R.R., & Forbes, L. (2012). Mentoring the 'Net generation': Faculty perspectives in health education. *College Student Journal*, 46(2), 397-404.
- de Janasz, S.C., & Godshalk, V.M. (2013). The role of e-mentoring in protégés' learning and satisfaction. *Group & Organization Management*, 38(6), 743-774.
- Merriweather, L.R., & Morgan, A.J. (2013). Two cultures collide: Bridging the generation gap in a non-traditional mentorship. *The Qualitative Report*, 18(Art. 12), 1-16.
- NTID (2015). National Technical Institute for the Deaf: Annual report. Rochester, NY: Rochester Institute of Technology
- Shpigelman, C., Weiss, T., Reiter, S. (2009). E-mentoring for all. *Computers in human behavior*, 25, 919-928.
- Single, P.B., & Single, R.M. (2005). E-mentoring for social equity: Review of research to inform program development. *Mentoring & Tutoring*, 13(2), 301-320.
- Williams, S., Sunderman, J., & Kim, J. (2012). E-mentoring in an online course: Benefits and challenges to e-mentors. *International Journal of Evidence Based Coaching and Mentoring*, 10(1), 109-123.

