Striking a Match: Developing a Remote-Mentoring Program for College Students with Disabilities

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Rochester Institute of Technology/National Technical Institute for the Deaf (RIT/NTID), Center on Access Technology
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Session objectives

• You will learn about the:
  
  • Deaf and Hard of Hearing Virtual Academic Community (DHHVAC), and why it includes mentorship functions
  
  • Basic functions of mentorship, with a focus on matching
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 5th year
RIT is the lead institution for this project, with Camden County College and Cornell University as partners.
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
What are the challenges?

Barriers to success in STEM

Lower Retention

Lower Graduation

Fewer STEM Professionals
Barriers to success

- Student preparation
- Socialization
- Accessible media
A vicious circle

Insufficient D/HH representation in STEM professions

Lack of support causes D/HH students to change majors or drop out

D/HH professionals providing support and role modeling are few and far between
How DHHVAC is helping

• This model that offers academic and vocational support by:
  • Facilitating remote tutoring and mentoring
  • Developing an online community of practice between students, tutors, and mentors

• Mentoring in the DHHVAC: From published literature to practical application
DHHVAC Model
Barriers & Strategies

Student Preparation
- Remote Tutoring
- Remote Mentoring
- Using G+ Hangouts

Socialization
- Remote Mentoring Peer-to-Peer Interaction
- Using G+ Private Community & Facebook Secret Groups

Accessible Media
- Accessible STEM Information
- Using Website,
G+ Private Community,
Facebook Secret Group & G+ Public Page
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
Career development in the DHHVAC

• Both school- and job-related

• Case-specific
  • Assignments; projects; documents

• Successful cases tend to be related to this type of support

• Occasionally blurs into role-modeling
  • Interaction with co-workers and colleagues
Personal development in the DHHVAC

• More likely in informal, spontaneous mentoring relationships

• Culture of professionalism

• ‘Weak-tie’ relationships presents an additional challenge in e-mentoring (Shpigelman, Weisee, & Reiter, 2009)
  • More like neighbors or service providers (e.g., doctors or bank tellers) than friends
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
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
From greeting to welcome

- **Application**
  - Basic demographic information, academic background, work history, consent

- **Background check**
  - RIT’s HR department investigates suitability for working with students

- **DHHVAC account and profile setup**
  - Google Apps for Education—Custom domain
  - Gmail, Google+, Google Drive
  - Invitations to Google+ private community and Facebook group
From greeting to welcome

• Mentors are automatically assigned to new student participants
  • Considers student’s major and mentor’s occupation

• Student request
  • Often a result of a change in academic focus, or for specific projects

• Growing a pool
  • Accepting volunteers to hedge against future requests/new participants
Striking a match

• Two components (Dawson, 2014)
  
  • Selection
    • Mentors: Self-selection; interpersonal; mentee request
    • Mentees: Self-selection; instructor recommendation; tutor recommendation
  
  • Matching
    • Mentee choice
    • Vocational similarity
      • Fine-grained within engineering-related fields
    • Demographic similarity
Vocational similarity in the DHHVAC

- Importance varies; affected by mentee choice
  - Case study: Student declines mentoring
  - Case study: Student shops for mentors

- Cross- or multidisciplinary mentoring
  - Second case study above
  - Mentors for undeclared students
Demographic similarity in the DHHVAC

• A new wrinkle: Communication preference

• Another new wrinkle: Technology adoption (Williams, Sunderman, & Kim, 2012)
  • Case study: Glide

• Suggests cross-cultural competence may be a strong indicator of successful matches (Merriweather & Morgan, 2013)
Introductions

• First contact facilitated by DHHVAC staff, ideally
  • Basic information about each party
  • Suggestions for initial and future discussions
  • Request for reports of contact
Maintenance

• Monthly check-in
  • E-mail to all mentors with requests for feedback or reports of contact
  • Suggestions for discussion
  • Encouragement to keep lines of communication open

• Communication methods
  • E-mail strongly preferred by mentors/mentees
  • Video chats via Google Hangouts and Skype
# Maintenance

## Ongoing: Contact log

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Collaborations and 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"
From One to Many

This is an example of a post within the private community.
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
Questions? Comments?
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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.